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CITY OF SPRINGFIELD

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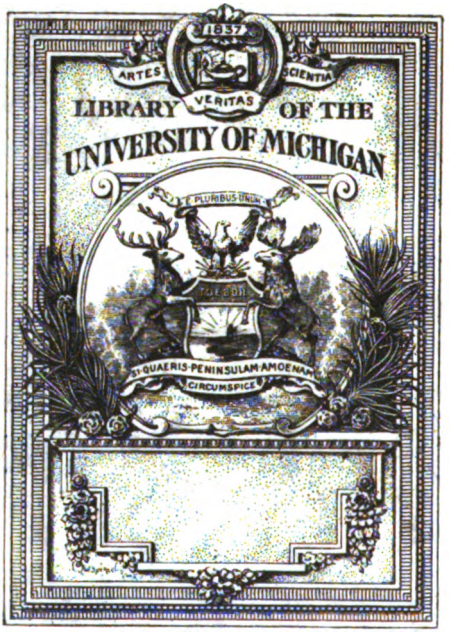

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Commonwealth of Massachusetts

MUNICIPAL REGISTER

OF THE

CITY OF SPRINGFIELD

FOR

—1913—

CONTAINING

CITY OFFICERS AND COMMITTEES, MAYOR'S ADDRESS, REPORTS OF THE VARIOUS OFFICERS AND COMMITTEES; ALSO, THE RECEIPTS AND EXPENDITURES FOR THE FISCAL YEAR ENDING NOVEMBER 30, 1912.

PRESS OF
SPRINGFIELD PRINTING AND BINDING COMPANY,
SPRINGFIELD, MASS.

1913.

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CITY OFFICERS

FOR 1913

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CITY OFFICERS, 1913.

Mayor

JOHN A. DENISON

Aldermen

HENRY LASKER, President

Ward 1: GEORGE S. COOK
Ward 2: HENRY LASKER
Ward 3: GEORGE H. McCLEAN
Ward 4: HARRY G. WEBSTER
Ward 5: ROBERT N. INGERSOLL
Ward 6: FRANK E. STACY
Ward 7: JULIAN R. ALBEE
Ward 8: JOHN G. MAXFIELD

ELIJAH A. NEWELL, Clerk

Common Councilmen

EDWARD T. BROADHURST, President

Ward 1: LOUIS G. ERICKSON, CHARLES J. JEFFERSON
Ward 2: WILLIAM H. GRADY, JOHN H. MORGAN, JOHN J. WALSH
Ward 3: NELSON W. HASKELL, GEORGE W. STREETER
Ward 4: ROBERT P. MARSH, GEORGE W. PIKE
Ward 5: CHARLES A. ALLBE, HAROLD A. WHEAT
Ward 6: HENRY MARTENS, THOMAS F. McGLYNN (resigned), PATRICK W. RUSSELL
Ward 7: ALBERT B. FRANKLIN, JR., EDWARD T. BROADHURST
Ward 8: GILES BLAGUE, GEORGE A. LANCIAUX, WILLIAM B. SLEIGH

GEORGE J. CLARK, Clerk

STANDING COMMITTEES OF THE CITY COUNCIL.

COMMITTEES OF THE BOARD OF ALDERMEN.

Enrollment—Aldermen McClean, Cook and Albee.

Elections and Returns—Aldermen Webster, McClean and Albee.

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Ordinances—Aldermen Cook, Stacy and McClean.

Poles and Wires—Aldermen Stacy, Lasker and Maxfield.

Itinerant Vendors' Licenses—The Mayor and Aldermen Maxfield and McClean.

State and Military Aid—The Mayor and Aldermen Albee and Webster.

Petty Licenses—Aldermen Cook, Webster and Ingersoll.

COMMITTEES OF THE COMMON COUNCIL.

Ordinances—Councilmen Wheat, Erickson and Russell.

Enrollment—Councilmen Franklin, Haskell and Morgan.

Elections and Returns—Councilmen Haskell, Wheat and Russell.

JOINT STANDING COMMITTEES.

Finance—The Mayor, Aldermen Webster, the President of the Common Council, and Councilmen Blague and Allbe.

City Property—Aldermen Maxfield and McClean, Councilmen Lanciaux, Pike and Grady.

Fire Department—Aldermen Ingersoll and Maxfield, Councilmen Martens, Franklin and Sleigh.

Pauper Department—Aldermen Albee and Ingersoll, Councilmen Erickson, Morgan and Haskell.

Printing—The Mayor, the President of the Common Council, and Councilman Sleigh.

Board on Claims—The Mayor, Alderman Ingersoll and the President of the Common Council.

Supervisors of the Department of Streets and Engineering—The Mayor, Alderman Cook and Councilman Marsh.

Firearms—Aldermen Stacy and Webster, Councilmen Jefferson, Martens and Russell.

CITY CLERK—Elijah A. Newell.

ASSISTANT CITY CLERK—Annie H. Hawkes.

CLERICAL ASSISTANTS—Cora B. Haskell, Carrie M. Riley, Clifford F. Smith, Ruth N. Ody, Lillian C. Hummel, Ida M. Sword.

CITY TREASURER—Eliphalet T. Tifft.

TREASURER'S DEPUTY—John P. Bishop.

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CLERICAL ASSISTANTS—George W. Rice, Jr., Margaret E. McCaughan, Agnes Pope.

AUDITOR OF ACCOUNTS—William C. Marsh.

CLERICAL ASSISTANTS—Isabelle Hicks, Gertrude Rowland and Howard G. Mecum.

CITY COLLECTOR—Charles A. Frazer.

COLLECTOR'S CLERK—Ralph L. Munn.

CLERICAL ASSISTANTS—Fannie M. Brown, Grace K. Burgin, Rena E. Bradley, Frederic W. Day, Leone C. Johnson.

ASSESSORS—Frank S. Crane, George B. Smith, Frank A. Lawton.

ASSISTANT ASSESSORS—Michael F. Kelliher, John Davis, William G. Ryan, Charles T. Hudson, Erwin F. Markham, William S. Wallace, Charles E. Murray, John W. Holton, Samuel A. Read, Arthur S. Burt, Benjamin R. Franklin, William J. Murphy.

OVERSEERS OF THE POOR—The Mayor, Dr. Sylvester E. Ryan, Arthur A. Call, Henry P. Norris, William R. Thacker.

AGENT—Edward I. White.

CLERICAL ASSISTANTS—Jennie S. Lombard, Marjorie W. Ward.

SUPERINTENDENT OF ALMSHOUSE—Lyman W. Sexton.

CITY PHYSICIAN—Dr. Sylvester E. Ryan.

CITY SOLICITOR—Scott Adams.

ASSISTANT CITY SOLICITOR—Josiah Dearborn.

CITY PROSECUTING ATTORNEY—Thomas F. McGlynn.

MAYOR'S CLERK—Elizabeth H. Clark.

CITY ENGINEER—Charles M. Slocum.

ASSISTANT ENGINEER—Herbert E. Flint.

CITY MESSENGER—Stephen P. Burns.

ASSISTANT MESSENGER—James H. Lay.

SUPERINTENDENT OF THE DEPARTMENT OF STREETS AND ENGINEERING—Fred H. Clark.

ASSISTANT SUPERINTENDENTS—Arthur H. Woodward, Howard O. Buck.

CLERK AND BOOKKEEPER—Alice E. Hathaway.

BOARD OF HEALTH—Edgar H. Guild, Health Physician, Dr. T. F. Rearden and Philip V. Erard.

AGENT OF THE BOARD OF HEALTH—William L. Young.

CLERK FOR AGENT—Grace E. Warren.

SANITARY INSPECTORS—Jacob R. Sackett, Frank A. Murray and Henry Wright, Jr.

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CITY FORESTER—William F. Gale.

SMOKE INSPECTOR—William F. Gale.

SUPERINTENDENT OF SCHOOLS—James H. Van Sickle.

SUPERINTENDENT'S CLERK—Fred L. Ward.

SCHOOLHOUSE AGENT—Hiram L. Dorman.

SCHOOL COMMITTEE—The Mayor; at large, Newton M. Hall; Ward One, Wayland V. James; Ward Two, Henry L. Hirsch; Ward Three, Ralph B. Ober; Ward Four, Leona May Peirce; Ward Five, Esther J. Morgan; Ward Six, Frederick Harris; Ward Seven, Francis M. Bennitt; Ward Eight, George H. Howard.

TRUANT OFFICER—John A. Parker.

ASSISTANT TRUANT OFFICER—Harry A. Killmer.

KEEPER OF THE LOCKUP—Charles M. Wright.

SEALER OF WEIGHTS AND MEASURES—James L. Bowen.

DEPUTY SEALER OF WEIGHTS AND MEASURES—Albert Geer.

INSPECTOR OF MILK—Stephen C. Downs.

ASSISTANT INSPECTOR OF MILK—James A. Gamble.

INSPECTOR OF VINEGAR—Stephen C. Downs.

INSPECTOR OF ANIMALS—Harry Lukes.

SUPERINTENDENT OF STREET LIGHTS—W. J. Converse

INSPECTOR OF PETROLEUM—George E. Kimball.

BUILDING COMMISSIONER—Fred W. Lumis.

BUILDING INSPECTORS—Abner P. Leshure, Daniel W. Campbell.

PLUMBING INSPECTOR—Frank W. Tower.

ASSISTANT PLUMBING INSPECTOR—Ernest G. Bates.

CLERICAL ASSISTANT—Alice Ferguson.

INSPECTOR OF GAS PIPING—Fred Bicknell.

INSPECTOR OF WIRES WITHIN BUILDINGS—Allen W. Hopkins.

ASSISTANT INSPECTOR OF WIRES WITHIN BUILDINGS—John F. Shea.

BOARD OF APPEAL—George C. Gardner, Thomas O'Brien, James F. Walls.

INSPECTOR OF COAL AND COKE—James L. Bowen.

FISH WARDEN—James P. Hatch.

WATER COMMISSIONERS—The Mayor, Fred R. Brown, Herbert C. Puffer.

SUPERINTENDENT OF WATER WORKS—A. E. Martin.

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WATER REGISTRAR—Alfred R. Hathaway.

BOARD OF PUBLIC WORKS—Claudius C. Margerum, Frank G. Tobey, Napoleon E. Russell.

BOARD OF REGISTRARS OF VOTERS—Orthello K. Merrill, William W. Bartlett, Frederick W. Brennan, E. A. Newell, Clerk.

ASSISTANT REGISTRARS OF VOTERS—Warren P. Underwood, Arthur P. Cook.

CLERICAL ASSISTANT—Edith M. Ware.

FIRE COMMISSIONERS—Edward A. McClintock, Charles F. Brown, Frank H. Wesson, Octave A. LaRiviere, Robert N. Ingersoll.

ENGINEERS OF THE FIRE DEPARTMENT—Chief, William H. Daggett; first assistant, Everett A. Kimball; second, Burton Steere; third, John R. Graves; Superintendent of Fire Alarm, Samuel L. Wheeler.

PARK COMMISSIONERS—Daniel J. Marsh, Everett H. Barney, Nathan D. Bill, Theodor Geisel, Dr. Andrew J. Flanagan.

PARK SUPERINTENDENT—Charles E. Ladd.

COMMISSIONERS OF SINKING FUNDS—Robert O. Morris, A. B. Wallace, A. Willard Damon.

LICENSE COMMISSIONERS—John H. Clune, Charles P. Chase, Hugh J. Donnelly.

MUNICIPAL BUILDING COMMISSION—Mayor, ex officio; Walter H. Wesson, George Dwight Pratt, William G. McKechnie, Henry Lasker, J. Frank Drake, George W. D. Upton, John J. Walsh and George W. Streeter.

MUNICIPAL TRANSPORTATION COMMISSION—Mayor, ex officio; Col. Stanhope E. Blunt, Hon. Marcus P. Knowlton, Edward P. Butts, George S. Cook, Edward T. Broadhurst.

CHARTER COMMISSION—Mayor, ex officio; Fordis C. Parker, Henry H. Bosworth, George E. Foss, George H. Wrenn, Henry Lasker, Giles Blague, Patrick W. Russell.

POLICE DEPARTMENT.

POLICE COMMISSIONERS— ————————, John W. Kennely, Edward H. Cullen.

CHIEF OF POLICE—William J. Quilty.

DEPUTY CHIEF OF POLICE—Charles M. Wright.

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CAPTAINS OF THE WATCH—John J. O'Malley, John H. Boyle, Henry M. Perkins.

LIEUTENANTS—David J. Manning, Charles A. Wade.

INSPECTORS—John St. Ledger, Martin P. Costello, James T. Raiche, James M. Daly, Frank W. Quilty.

VICE SQUAD—George H. Norris, Edgar A. Littlefield, Edward J. Rathbun.

SERGEANTS OF POLICE—John Hall, E. Frank Goodwin, Patrick J. McCallin, Patrick H. McDonald, James C. Burke, Michael J. O'Brien, Frederick L. Thayer.

POLICE MATRONS—Maria E. Holley, Mrs. Delia E. Flanagan.

CLERK—C. Pantasides.

POLICE OFFICERS.

NIGHT AND DAY WATCHMEN AND POLICE OFFICERS.

Paul J. O'Brien,	Daniel J. Twohig,	Aime L. J. Letendre,
Ernest Rosenberg,	Timothy J. Hallahan,	Frederick P. Smith,
John H. Dunleavy,	Charles W. Geary,	George F. Russell,
Thomas Ranney,	John F. Bacon,	Joseph A. Murphy,
James Murtagh,	John L. Maloney,	James A. Dowling,
Calvin W. Jennings,	Ernest P. Marble,	James H. O'Brien,
Michael C. Quinlivan,	James F. Dagnan,	John McNeil,
Michael R. Donovan,	Alexander Gray,	Durham N. Pepin,
Chas. H. O'Connell,	Edwin C. Holbrook,	Thomas B. Drinan,
Ward E. Maranville,	Henry C. Hatfield,	Clarence E. Bradway,
Edgar A. Kirk,	Patrick Lynch,	James J. Collins,
Albert H. Shaw,	John P. Sullivan,	Walter L. Henderson,
James J. Donovan,	Patrick J. O'Connor,	Bernard J. F. Bergren,
Edward P. Tilton,	Thomas Maloney,	Peter H. Walsh,
James H. Rogers,	Frederick J. Runnells,	John F. Donoghue,
John A. Swift,	Marshall A. Belmer,	William S. Bates,
Michael F. Egan,	William J. Hurley,	Daniel F. McCarthy,
Patrick Keefe,	Llewellyn D. Carey,	John LaFond,
Andrew J. Melaney,	William F. Goldrick,	Patrick J. Fenton,
Albert F. Ward,	Michael F. Sullivan,	Frederick J. Sevigne,
Simon J. Connery,	Joseph D. Powers,	Alfred H. Penfield,
Ovila L. Huot,	Edward Carey,	Robert Rennison,
Michael Kennedy,	Neal Ferry,	John A. Hamberg,
William J. Grady,	Horace G. Clark,	Myron H. Bullard,

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John A. Driscoll,	Howard F. Tourtellotte,	Louis H. Pilon,
Harley H. Blodgett,	John G. Flynn,	Eugene F. Kelleher,
Charles Martens,	Edward J. Slattery,	James P. Gray,
Perley J. Hewey,	Michael J. Curley,	Thomas Kavanaugh,
William J. Hogan,	Arthur H. Carrigg,	Mathew P. Ryan,
Herbert A. Clark,	Jeremiah B. O'Leary,	William F. Lonergan,
John F. Carlton,	Charles Hanlon,	Patrick B. Sullivan,
Ernest C. Smith,	John Hayes,	James J. Moylan,
James F. Mullins,	Patrick J. Keane,	Thomas J. Flemming,
George E. Lynch,	Thomas F. Connery,	Thomas A. Kennefick.
Michael Flannery,		

RESERVE POLICE FORCE.

John W. Unwin,	Frederick Cullen,	Lovell S. Spaulding,
James W. O'Keefe,	John C. Driscoll,	John J. Maloney,
John H. St. Ledger,	Cornelius P. Brosnan,	Arthur E. Clifford,
Matthew J. Meade,	Charles C. Learned,	Edward D. Pepin,
William G. Dale,	Antonio Forni,	Fred A. Champous,
D. J. Manning, Jr.,	Michael J. O'Brien,	William H. Hickey,
John B. Carrigg,	James F. Wood,	Raymond A. Vining.
Peter J. Marra,		

SPECIAL POLICE OFFICERS.

Moses Abdow,	Thomas W. Cashman,	Patrick L. Dowd,
Henry P. Anderton,	Nelson V. Chaffee,	Fred A. DuBois,
James Ashe,	Geo. W. Clampit,	C. H. Dustin,
Rowland Atkinson,	Edgar C. Collins,	Frank Dutton,
W. F. Bardwell,	John H. Collins,	Carl L. Farmer,
John H. Barnes,	Julius C. Colemann,	Michael A. Feustel,
Joseph W. E. Barnes,	John J. Connor,	Howard G. Fox,
J. A. Beauchemin,	James J. Crowe,	George Frangie,
Morris Bilsky,	Michael J. Crowley,	William A. Gaunt,
Fred Besilie,	Chas. W. Cummings,	Harry E. Gibbs,
Tony Bondi,	Antonio Dantono,	Arthur E. Goyette,
William C. Bozenhard,	Charles L. Davis,	William H. Grady,
Archibald Brown,	C. O. Davis,	Ottis W. Greeley,
Floyd G. Brown,	Michael J. Davis,	John Grochmal,
Thomas M. Brunton,	D. D. Denton,	William Hannifin,
Wm. J. Callahan,	James M. Downer,	Michael J. Harrington,
John Carr,	James A. Donoghue,	Wm. E. Harrington,
Thomas H. Cartmill,	McClelland Dow,	Martin R. Healy,

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John E. Hickey,
Dennis A. Hogan, Jr.,
Henry J. Howard,
John Hurley,
Charles Ireland,
James Jones,
Howard C. Joynes,
A. E. Keith,
John E. Kelly,
E. M. Keyes,
Harry E. Lakin,
Harry B. Lamberton,
Thomas J. Leahy,
Egbert C. Lee,
John J. Lee,
Clayton J. Lewis,
Edward Long,
Michael D. Lynch,
Wm. J. McCarthy,
George E. McCormick,
John H. McDonald,
Burdett R. Madison,
George F. Maher,
Sarkis Mansour,
Montague R. Marsh,
Paskil G. Martione,
Pasquale Mastroni,
Frank J. Meyer,
Alfred E. Miller,
A. S. Miller,
Dwight B. Montague,
Charles C. Moody,
Clarence H. Moon,
Daniel J. Moriarty,
William H. Morley,
Charles S. Morse,
George A. Mulany,
John H. Murphy,
Frank A. Murray,
E. C. Myers,
J. H. Myers,
Donald North,
Michael M. O'Sullivan,
Frank Pagliaro,
C. Pantasides,
Royal I. Pike,
Sumner W. Rainger,
L. E. Ranslow,
Thomas Ready,
Cornelius Riley,
George N. Riley,
Fred E. Ripley,
John Robinson,
John W. Rochford,
John P. Rohan,
Frank F. Rolzhausen,
A. C. Sargeant,
M. J. Sarsfield,
J. S. Sawyer,
J. A. Schelb,
James J. Sinclair,
Jerry J. Shea,
Homer B. Smith,
Ralph E. Smith,
C. J. Staples,
A. J. Stapleton,
G. H. St. Marie,
Barney Theriaque,
B. A. Tice,
E. F. Tillson,
George Tyler,
S. M. Wheeler,
Max Wiener,
C. E. Willard,
James H. Womble,
George H. Wood,
Henry Wright, Jr.,
George J. Unwin.

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MAYOR'S ADDRESS.

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MAYOR'S INAUGURAL ADDRESS.

Gentlemen of the City Council:—

We have come together to undertake the work of the City of Springfield for the ensuing year. For most of us the opportunity is open to consider what may well be done in the two years now beginning. I doubt if in the history of the city a Council has commenced its work with larger opportunities to contribute its time, its efforts, and its judgment for the welfare of Springfield. Those of us who have lived hereabouts for a score of years or more, have watched Springfield awake from the lethargy of an overgrown town and become a modern city, quick with the impulses and requirements of a growing community. We have outgrown our equipment as fast as we could procure it; we have needs on every hand.

It is given to us to assume the direction of municipal affairs at such a time and we must rise to the occasion. But there is no need for undue haste. In the long life of the city, it makes little difference whether an undertaking is entered upon in one month or in the month following; it makes little difference whether it redounds to the credit of this man or that. The essential is that what we do shall be well done and done after deliberation.

It should be our aim to make every dollar expended, bring a dollar's value. We are the directors of a three million dollar corporation and as accountable as trustees to those

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who have put us in office. I would not be understood, however, as advocating no expenditure without permanent return. It is as essential that we should expend for temporary benefit, in such ways as the immediate extension of Water street under the tracks to care for a great need, even though the expenditure be for temporary construction, as it is that we make a permanent extension of Dwight street. The builders of the new Grand Central station have not hesitated to pay out thousands of dollars for temporary work for the accommodation of the public. It has been singularly characteristic of Springfield that the city should attempt to plan everything and meanwhile do nothing. With the common sense that is in us, abetted by the criticism that will be freely given us, we should set about our work. We should proceed conservatively, but, nevertheless, fearlessly go ahead.

In taking up the many projects that call for attention I would suggest to you that it has been found advantageous to consider, so far as possible at one time in the year, the work for the year; to cut our municipal cloth to fit the city's pocketbook, and to weigh the various projects with the same scales. Such a policy gives everything its proper perspective. Emergencies may face us and they can be met when they arise. Yet I do not recall in the past five years any occasion when delay for consideration would have caused damage. I recommend consideration to you.

THE CHARTER.

There were presented to the last Legislature two forms of charter proposed for Springfield. Each plan proved to be

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incomplete, and against each sound objections were made. The Legislature, after some discussion, referred the subject to the General Court of this year, where the matter rests. In the interim we have considered our needs. It is my opinion that our present charter has withstood the test of keen adverse criticism very well, and I believe personally that we should retain our present form of government with such changes as will bring it up to date. I recognize, nevertheless, that there is a strong and genuine demand for a change, and I believe the citizens should be given the opportunity to vote upon the matter. I urge you therefore to empower me to appoint a committee to perfect a charter and to provide that committee with facilities for its work. I urge you to decree that the committee shall give ample opportunity to whomsoever wishes to be heard, offering information and criticism of value, and that the committee shall, upon the completion of its draft or drafts, hold a sufficient number of hearings thereon. All this, to the end that we may present to the Legislature of 1914 a charter that we want. Opinion has crystallized in the past few months. We should now be ready to discuss intelligently what needs to be done to perfect our present charter and whether or not radical changes are advisable. Meanwhile, it would be well to petition the Legislature to take no action during this session upon any Springfield charter bill.

Whether or not there should be a revision and codification of the Revised Ordinances at this time—a matter which has not been attended to since 1904—I leave to your judgment. It would be of great assistance to have the ordinances and charter as amended, in compact form, but it is for you to determine whether or not the need warrants the outlay

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and what effect the possible adoption of a new charter to take effect two years from this time, may have.

A MUNICIPAL EXAMINATION.

It is particularly favorable to the perfection of our methods of government that there should be made to the city at this time the following proposition:—

"It is the desire of the undersigned to assist in promoting the welfare of the City of Springfield through such improvements as may be made possible by the perfection of efficiency in its many departments.

"Much has been accomplished through expert work along efficiency lines in modern municipal management, and the results of the experience of many other municipalities seem to have not only justified a careful study of the problems but also to have resulted in the establishment of permanent citizens' bureaus for the continuation of work of this nature.

"In order to secure to the city an expert survey for the purpose of determining the advisability of further work along efficiency lines, the undersigned will be glad, and in fact do pledge themselves, to bear the expenses of such preliminary survey and respectfully request your co-operation and assistance.

(Signed) H. H. Bowman,
L. W. Besse,
Fred T. Ley,
Charles H. Parsons,
Horace A. Moses,
S. L. Haynes,
Samuel M. Green,
Ernest D. Bugbee,
George C. Gardner,
Frank H. Page."

This definite offer will be submitted to you in the formal session following this meeting. Its generous helpfulness is

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typical of the spirit which has made Springfield a city of which to be proud. It is hardly necessary to draw your attention to the benefit to our departments of qualified examination and expert advice. If we are doing our work well, we shall know it. If we are not, or if we can cut corners or make the municipal machinery more efficient, we shall see where we are at fault and be shown how we can improve. No upheaval is threatened, no theoretical experiments impend. We are simply to have the advantage of an examination of our municipal plant by men who know how things should be done. Gratitude is due those citizens who have made such an examination possible, and gratitude can best be shown by affording those whom they secure to come here, the fullest access to the information they require. A more detailed explanation of this proposition will be made to you later.

THE RAILROADS AND THE RIVER.

Your predecessors from time to time, over a period of years, have examined sundry plans for the solution of the bridge problem. I do not call it the riverfront problem, because it was primarily a bridge problem and it remains such. There was a deviation from that problem, so great as to overcloud the original need, when the riverfront plan was proposed. The Riverfront Commission and the New Bridge Commission have long since ceased to be active, but are still extant, and I ask you to abolish these bodies with due thanks for their valuable services.

In their stead I ask you to empower me to appoint three members of a committee of six, to be joined with an alderman

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and a councilman to be elected by your respective boards, and to make the Mayor a member of this committee. I believe this committee should be directed to investigate and report upon the proper location and type of a new bridge, upon the railroad question in its entirety, and upon the needs of navigation. I do not urge the immediate construction of a new bridge. Such a step would be inconsistent with the policy of economy I hope to enforce. Furthermore the old bridge can serve us, barring accident, for some time and should be made use of. It is not unlikely, however, that fire or flood may destroy the old relic, and we should be prepared. We should know what we want to do. Navigation has become almost a probability and the committee which I ask you to create should forecast its needs. The railroads should also be negotiated with by this committee, empowered to represent the city.

It is not my idea that such a committee should in any way usurp your functions. I ask you to provide for your representatives upon it, that you may know what is going on. Such a committee should, however, consider the whole transportation problem of the city as far as river, railroads, and bridges are concerned. It may be that we shall need more than one bridge. Possibly we may find a different riverfront advisable,—a highway leading up-river from the North-end bridge to the city line, where a bridge would afford more direct communication to the north, along a beautiful waterway.

THE DEVELOPMENT OF SPRINGFIELD.

An allusion to possibilities along such lines leads logically to the question whether or not we should have a city plan.

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I believe we should, but I do not believe we should intrust our scheme of development to any expert in city planning who might be hired to come here at so much for the job. I believe that we might consult experts upon particular matters, but I am confident we have amongst us citizens competent and ready to undertake a plan for Springfield, whose hearts would be in their work and who have sufficient breadth of view. Some such commission as that which Hartford has secured, might be well for Springfield.

Present conditions are not satisfactory. We have a Board of Public Works to whom by law all projected improvements are referred, from a new sidewalk to the extension of great streets. Their dockets are so cluttered with petty detail to which the attention prescribed by red-tape regulations must be given, that the more important matters inevitably suffer. There is not the co-operation between them and your Boards that there should be, and it is impossible under the present system to have consistent, far-sighted planning. I recommend the investigation of the best way to plan for the development of Springfield.

I would suggest that a new committee might well be constituted in the Council to consider such subjects as the foregoing and other matters recommended by the Mayor during the year.

A new committee of the Board of Aldermen also seems to me to be needed—a Committee upon Railways, Railroads, and Navigation it might be called—to whom proposed franchises and navigation questions could properly be referred for more thorough investigation than can be conveniently given by the committee of the whole of that Board. And right here

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let me say that I believe that anything which this city can reasonably do, to make access to us easier for shoppers, for the sending in of farm produce, for bringing customers and goods to us, should be done.

PUBLIC CONVENIENCES.

It should be our aim to provide in every reasonable way for the convenience, comfort, and pleasure of our citizens. There are many suggestions to be made along these lines to which I can only refer briefly at this time. Perhaps the most important is the division of the wards into more precincts, to provide more voting places. This will mean more expense for elections, but it ought not to be the case in the City of Springfield, as it is to-day, that voters in some instances have to go seven miles to vote and seven more to get home. It ought to be easy for a man to go and vote.

Attention to another matter would add greatly to our comfort. Our charter provides that the City Council may cause sidewalks to be repaired in such places as they may judge best and may assess the expenses thereof upon the persons owning the lands against which such sidewalks are repaired. Springfield has miles of brick sidewalks and walks of other materials to which numerous repairs should be made. I recommend that a force of men be set at work repairing these walks. The cost will fall upon the abutters so that the city need be at no ultimate expense and the abutters will in most cases be willing to pay the small cost for the general good. When new walks are ordered in throughout the city, they should be uniform and of cement. The Street Department has put

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in excellent cement walks during the past year for less than ninety cents a yard.

It does not lie within your power to make the bathing facilities at Watershops Pond more satisfactory except in the appropriation of funds therefor, nor can you develop a swimming pool at Van Horn Park. I believe, however, that improvements can be made at both places.

There should be sanitaries in two or more parts of the city. If we are to make Springfield a trading center and an attractive place for visitors, such conveniences must be at hand. They should be located with reference to the trolley and business centers.

We are entitled to a better railroad station. I do not mean a new station, but I believe the present station should be reconstructed with regard to the comfort of travelers. In its day the present station may have been good, but it was completed a generation ago, and when a traveler or a citizen compares it to the modern railroad buildings in other cities, he notes how insufficiently it provides for the needs of the public.

We are entitled to better street railway service. Due allowance should be made for the difficulties under which the present road operates, but we have a right to require more and better cars, more clearly designated as to routes.

THE DEPARTMENTS.

You will soon be asked by the various departments to provide for their requirements. The city's fixed charges can rarely be lessened, instead they show a tendency to increase. I refer to the maintenance of the various offices, to salaries

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and the like. There should be few increases along such lines during the coming year. We shall soon enter our new office building with the concomitant calls for readjustments and fittings. Until we have adjusted the city's business to the new surroundings, increases of salary or equipment should, for the greater part, wait.

Of the departments, one which calls for your attention because of the size of its necessary demands is the School Department. In its annual report, the School Board calls for greater accommodations, grouping its needs in accordance with the urgency of each case. Of first importance is the building of a High School of Commerce. A site for this building has now been selected, and proceedings to acquire a title to the land through condemnation have been commenced. It will probably be necessary to make an appropriation and issue bonds for the land and building during the coming year, to an amount of nearly $500,000. We have within the Council, men who are entirely competent to undertake the planning and building of this great structure, and I trust there will be no attempt to delegate this work, which is properly that of the Council, to any outside representatives. Whether or not the school could be better adapted for public uses than have our school buildings hitherto, should be carefully considered. I am inclined to believe that we should build all our municipal buildings, and particularly our school buildings, with due regard for possible uses of all kinds by the public.

The Fire Department has been undergoing an examination by the inspectors of the National Board of Fire Underwriters. We shall have the benefit of a report based upon

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their critical inspection at an early date. The motorization of the department has proceeded rapidly. It would seem to be well to await further development of pumping engines and possibly of some other types of fire apparatus before doing away entirely with the horse-drawn apparatus, but the great saving of motor vehicles over horse-drawn, and the greater efficiency of the former, make a conclusive showing.

The Overseers of the Poor will soon ask of you to provide some adequate heating facilities at the Almshouse to take care of both the Almshouse and the Isolation Hospital. The State Board of Charity has called attention to the annoyances caused by the use of the upper story of the Almshouse Hospital as a home for the nurses connected with the Isolation Hospital. The building is of mill construction and the noise resulting from the occupancy by these nurses is necessarily disturbing to the patients below. If the city is to continue to meet the tramp problem by the Wayfarers' Lodge method, repairs will probably have to be made to the old building or new quarters secured elsewhere. Mill street will sooner or later be extended and the present lodge destroyed.

BUILDING DEPARTMENT.

In the records of the Building Department for 1912, the material growth and progress of Springfield are clearly indicated by the steadily increasing amount of building operations, which, during the year just passing, far exceed in number and value the building activities of any previous year. The total value of building operations for which permits have been granted during the year amounts to more than six and one-

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quarter million dollars,—a gain over last year of 29%. The total value of building operations for 1911 amounted to $4,895,963. Of this amount, however, $709,000 was for buildings erected by the city, so that the actual gain in the growth of the city, for the year 1912 over the year 1911, amounts to more than 40%.

During the past year permits have been granted for approximately 1,500 building operations, as against 1,209 for last year. An unusually large number of buildings for manufacturing and business purposes have been built during the year, establishing a solid basis for future growth, and giving the assurance that the activity is to be continued.

During the early part of the year, the revised building ordinance was before the City Council for approval, and was passed to take effect on the first day of May, 1912. The ordinance, as passed, is very much of an improvement over the one in force a year ago. There is, of course, still room for further improvement. A committee on housing conditions in Springfield is active in making investigations and, if necessary, procuring legislation. Whatever it may accomplish will probably be referred to the City Council for enactment, and the building ordinance can be further revised, if it is thought necessary, at such time as the Council has the housing problem under consideration.

The new ordinance was effective in placing the inspection of electric wiring (within buildings) and of gas-piping, under the supervision and control of the Building Department. Three new inspectors have been appointed during the year to handle properly this part of the work. The Building Department is still quite a new thing, but already those who are

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interested in carrying on building operations, including owners, masters, and journeymen, are coming to a better understanding of the justice and necessity of the requirements, and the resulting improvement is now noticeable in the quality of the buildings which are being erected.

MUNICIPAL GROUP.

Early in 1912 the Legislature authorized Springfield to incur indebtedness to complete the municipal group and to acquire land to the west of the site, to an amount not exceeding $800,000, which amount is not to be reckoned in determining the statutory limit of indebtedness of the city. In accordance with this authority the City Treasurer sold in October, $525,000 one- to forty-year serial 4% bonds. The premium received for the issue reduced the rate to 3.81%.

This makes a total of $1,525,000 bonds that have been issued and sold under provisions of special acts for the purposes of the municipal group upon which the average rate is 3.80%. When the land was purchased on which the auditorium stands, bonds to the amount of $170,000 were issued under the general law, within the debt limit. There remains a balance of $275,000 municipal bonds that can be issued under the authority of the act of 1912 for the purpose of acquiring land to complete the site. When these bonds are issued, the total debt incurred by the city for the municipal group will amount to $1,970,000.

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FINANCES.

At the beginning of the fiscal year of 1912 Springfield had a legal borrowing capacity of $574,000. For the first time in ten years no bonds were issued during the past year that reduced the debt limit. The issue of $525,000 municipal building loan bonds were under a special act, and therefore did not affect the borrowing capacity. Owing to the large increase in the taxable valuations, which amounted to $21,000,000 over the 1911 valuation, the city was able, with the lowest municipal tax rate for the year in the State, to pay all departmental expenses, and appropriate from the reserve fund for special appropriations $161,000.

Besides bonding for the new high school this year, authority will be early sought of the Legislature for permission to issue $400,000 bonds outside of the statutory limit for the purposes of joining Dwight and North streets and Water and Fulton streets, by extensions under the Boston & Albany railroad tracks. At the request of the Water Commissioners, authority will also be petitioned of the Legislature to issue $350,000 short time serial water bonds for the purpose of extending distributive mains required by the rapid growth of the outlying districts and for the purchase of land around the Little River reservoirs.

The reduction of the debt in 1912 by payment of maturing serial bonds, and the appropriation and increase of the sinking funds, amounting to $225,000, together with the increased valuation of 1912 on which to average the basis for figuring the debt limit, will allow the city a borrowing capacity (within the legal limit) for the year 1913 of $1,100,000.

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The wonderful growth in valuation of real and personal property that the Assessors' figures showed for 1911,—an increase over 1910 of $8,453,000,—following an increase of $10,581,371 in 1910 over the year 1909, has continued. The Assessors' figures for 1912 were almost amazing, showing a total valuation of $149,530,350, an increase of $21,905,332 in *one year.*

The five years' increase in valuation from 1907 to 1912 inclusive was $57,151,726; equal to the total increase in valuation of the city for the twenty-four previous years, or from 1883 to 1907. The increase of the past five years in taxable values was divided between real estate and personalty as follows:—

Real estate,.....	$50,282,710
Personal property,.....	6,869,016

The question naturally arises whether or not our real estate is valued too high. A comparison with the valuations of the cities of Worcester and New Bedford shows that our city exceeds both in the taxable value of its real estate. This may be accounted for by our larger districts of retail and wholesale stores, owing to the city's location in the center of a larger trading area. The increase of both the cities above mentioned in valuation the past year was about $6,000,000 each, contrasted with our growth of $21,000,000.

Large owners of Springfield real estate do not complain, for the market price of central real estate keeps well ahead of the Assessors' figures. The protest, if any, comes from the taxpayer upon personalty, and here, in comparison with the two cities mentioned, our total valuation of personalty is less,

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and our tax rate of $15.50 per thousand, against $19.30 in New Bedford and $17.20 in Worcester, is a favorable factor.

Any taxpayer considering removal from the city, or choosing his residence where he has a summer home in order to avoid the local tax on his personal holdings, should hesitate before taking so important a step. He should remember that this city has a reputation for municipal government second to none in the Commonwealth. He should note that the standard of excellence in all departments of the city is higher than in the average American city, and that in paying the Springfield tax rate (one of the lowest in the State) he is getting nearer value received than most taxpayers. If he thinks he is unduly assessed he can make a sworn affidavit to his personal holdings at any time and be taxed accordingly. When a taxpayer and his family have enjoyed the benefits of this city and community, it would seem disloyal and unpatriotic to desert the city for tax reasons alone.

It is being urged by some of the tax collectors in the Commonwealth that the rate of interest charged on unpaid taxes should be raised from 6% to 8% in order that the taxpayer may feel the necessity of paying his taxes promptly, and if he needs to borrow, may borrow from a bank rather than from the city. There has been a gradual growth the past few years in the amount of uncollected taxes at the close of the fiscal year. The amount of the 1912 taxes unpaid and in the hands of the Collector for collection at the close of the last fiscal year was $467,897, or 19.91% of the total levy.

It will not be many years under the present system before the city will be obliged, in order to pay its bills in the closing month of the year. to issue temporary loan notes in anticipa-

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tion of the uncollected taxes. This has been customary in many cities in the Commonwealth for some years, but Springfield has been very fortunate so far, and has been able to close its fiscal year without a temporary loan note outstanding against its taxes.

The financial operations of the city continue to grow as evidenced by the following summary, taken from the City Treasurer's annual report:—

RECEIPTS.

Cash receipts from Revenue sources,	$4,114,352.33
Cash receipts from Non-Revenue sources,	561,628.44
	$4,675,980.77
Cash balance at beginning of period,	1,127,369.20
	$5,803,349.97

DISBURSEMENTS.

Cash payments for Revenue purposes,	$4,043,752.91
Cash payments for Non-Revenue purposes,	759,203.08
	$4,802,955.99
Cash balance at end of period,	1,000,393.98
	$5,803,349.97

For your benefit I give, herewith, a table showing the purposes for which the present debt was incurred:—

Water works (exempt),	$2,383,000

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Schoolhouses:—		
Central High,	$370,000	
Technical High,	346,500	
Other schools,	1,027,000	
		$1,743,500
Abbe Avenue overhead pass,		62,000
Fire Department buildings,		114,800
Fire and Police headquarters,		306,000
Isolation Hospital,		17,100
Locust Street extension,		18,000
Municipal heating plant,		74,100
Municipal group, buildings (exempt),		1,460,000
Municipal group, land,		127,000
North Street extension,		140,000
Parks and buildings,		159,200
Rifle range,		6,000
River front (exempt),		12,000
Sewers,		240,000
Water Street extension,		24,000
Debt exclusive of water debt,		$4,503,700
Total debt,		$6,886,700

In closing, it is pleasant to allude to the completion of twenty-five years of service by the capable and faithful City Clerk and City Treasurer. Their loyalty and fidelity to the city, their patience and attentiveness to exacting demands, have set a high standard for municipal work. I trust we may render the city equally conscientious service.

JOHN A. DENISON.

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REPORT

OF THE

SCHOOL BOARD

OF THE

CITY OF SPRINGFIELD,

MASSACHUSETTS.

1912

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SCHOOL BOARD FOR 1912.

EDWARD H. LATHROP, MAYOR,
CHAIRMAN, *ex officio.*

	TERM EXPIRES.
AT LARGE.—EDWARD H. WILKINSON, VICE-CHAIRMAN, 136 Mill Street.	Dec. 31, 1912
WARD 1.—WAYLAND V. JAMES, 69 Waverly Street.	Dec. 31, 1913
WARD 2.—IRVING S. PULCIFER, 21 Blake Hill.	Dec. 31, 1912
WARD 3.—RALPH B. OBER, 76 Maple Street.	Dec. 31, 1913
WARD 4.—LEONA M. PEIRCE, 247 Union Street.	Dec. 31, 1913
WARD 5.—MRS. ESTHER J. MORGAN, 7 Lincoln Street.	Dec. 31, 1913
WARD 6.—FREDERICK HARRIS, 270 Maple Street.	Dec. 31, 1914
WARD 7.—FRANCIS M. BENNITT, 120 Sumner Avenue.	Dec. 31, 1914
WARD 8.—GEORGE H. HOWARD, 204 Wilbraham Road.	Dec. 31, 1914

SECRETARY,
BERTHA M. McCONKEY.

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SUPERINTENDENT OF SCHOOLS,

JAMES H. VAN SICKLE,

Office, 47 Vernon Street. Office hours: School days, from 12 M. to 1 P. M.; Saturdays, from 10 A. M. to 1 P. M.

ASSISTANT SUPERINTENDENT OF SCHOOLS, PRIMARY SCHOOLS, AND KINDERGARTENS,

BERTHA M. McCONKEY,

Office, 47 Vernon Street. Office hours: School days, from 12 M. to 1 P. M.; Saturdays, from 10.30 A. M. to 1 P. M.

CHIEF CLERK,

FRED L. WARD,

Office, 47 Vernon Street. Office hours: 8.30 A. M. to 5 P. M.; Saturdays, 8.30 A. M. to 1 P. M.

CLERKS,

EDWINA A. MILLER,
CHARLES A. H. PARKER,
A. LEOTA PINNEY,
ANNA F. LEONARD.

SCHOOLHOUSE AGENT,

HIRAM L. DORMAN,

Office, 47 Vernon Street. Office hours: 10.30 to 11.30 A. M. and 4 to 5 P. M.

CLERK,

L. EMELYN TEN EYCK.

TRUANT OFFICER,

JOHN A. PARKER,

ASSISTANT,

H. A. KILLMER,

Office, 47 Vernon Street. Office hour: 1 to 2 P. M.

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SPECIAL COMMITTEES FOR 1912.

Finance.

THE MAYOR, MR. WILKINSON, and MR. HARRIS.

Text-Books and Supplies.

MISS PEIRCE, DR. BENNITT, and PROF. HOWARD.

Central High School.

DR. BENNITT, MISS PEIRCE, and DR. OBER.

Technical High School.

MR. WILKINSON, MRS. MORGAN, and MR. PULCIFER.

High School of Commerce.

MR. HARRIS, DR. BENNITT, and MR. JAMES.

Industrial Schools and Manual Training.

MR. JAMES, DR. OBER, and MR. WILKINSON.

Evening Schools.

DR. OBER, MR. WILKINSON, and PROF. HOWARD.

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Kindergartens.

MRS. MORGAN, MISS PEIRCE, and MR. JAMES.

Ungraded Schools.

PROF. HOWARD, MR. PULCIFER, and MRS. MORGAN.

Physical Culture and Hygiene.

DR. BENNITT, DR. OBER, and MR. HARRIS.

Music.

MRS. MORGAN, MISS PEIRCE, and MR. HARRIS.

Domestic Science and Art.

MISS PEIRCE, MRS. MORGAN, and MR. PULCIFER.

New Buildings.

MR. JAMES, MR. WILKINSON, and MR. HARRIS.

Salaries.

MR. PULCIFER, DR. BENNITT, and MR. JAMES.

Ward One Group of Schools.

Carew street, Brightwood, Lincoln, Jefferson avenue, Armory street, and Chestnut street.

MR. JAMES.

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Ward Two Group of Schools.

Hooker and Charles street.
MR. PULCIFER.

Ward Three Group of Schools.

Howard Street.
DR. OBER.

Ward Four Group of Schools.

State street, Worthington street, and School street.
MISS PEIRCE.

Ward Five Group of Schools.

Barrows, Tapley, Strickland, and East Union street.
MRS. MORGAN.

Ward Six Group of Schools.

South Main street and William street.
MR. HARRIS.

Ward Seven Group of Schools.

Central street, Sumner avenue, Forest Park, Kensington avenue, Alden street, White street, and Eastern avenue.
DR. BENNITT.

Ward Eight Group of Schools.

Buckingham, Homer street, Indian Orchard Grammar and Primary.
PROF. HOWARD.

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ADVISORY COMMITTEE FOR VOCATIONAL SCHOOL

Metal-Working Department.

EDWARD S. POMEROY,
Superintendent Smith & Wesson's.

R. W. ELLINGHAM,
Superintendent Hendee Manufacturing Co.

CLARENCE W. ALLEN,
Superintendent Springfield Machine Co.

Wood-Working Department.

A. G. CHAPMAN,
Carpenter-Builder.

C. H. CUTLER,
Foreman Hampden Lumber Co.

WILLIAM FOSTER,
Foreman for Shattuck Brothers.

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REPORT OF THE

SCHOOL BOARD.

To the Citizens of Springfield:—

The following report of the School Board is submitted for your consideration. When a little later this report appears in printed form, accompanied by those of the Superintendent, Assistant Superintendent, and others, amplified by statistics and other data, it will present a document which will give a fairly definite idea of the extensive work done in educating the children of Springfield for which you pay annually over $600,000.

SCHOOL ACCOMMODATIONS.

The steady growth of the city is nowhere more quickly felt than in the School Department. A forecast of the needs of the department in the immediate future may be well indicated as far as school accommodations go by recent recommendations made to the City Property Committee at their request.

Immediate and early future needs of the School Department for new buildings, additions to buildings, and additional land for new buildings and enlargements, grouped in order of urgency as to buildings. All land to be acquired at once.

This forecast is necessarily subject to such modification as may be called for by unforeseen developments in various sections of the city.

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GROUP I.

High School of Commerce—Land and building.

Gymnasium for Central High School—Addition to building.

Buckingham School—Enlargement of building and additional ground.

Note: Unless purchase of land for Buckingham School can be promptly arranged for, and building operations be begun early next spring, the addition to the Homer Street School cannot be delayed, as there is a congestion in this district calling for immediate relief either through an enlargement of the Buckingham School or an addition to the Homer Street School.

Brightwood School—An addition involving the purchase of adjacent land.

New Primary School to be located between the White Street School and the East Longmeadow line—Land and building.

Indian Orchard Primary School—A small addition at the rear.

Carew Street School—An addition involving purchase of adjacent land.

GROUP II.

Armory Street School—Addition to building.

Indian Orchard Grammar School—Addition to building; additional land for playground.

Homer Street School—Addition to building; additional land for playground.

Forest Park School—Addition to building.

GROUP III.

Howard Street School—Addition to building including a school hall; additional land for playground.

Central Street School—Addition to building.

Lincoln School—Addition to building.

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School Street School—Additional land should be secured in time to prevent its occupancy by an apartment house already planned for. Addition to building,—size of addition to depend upon the ultimate plans for housing the State Street Grammar School.

GROUP IV.

Central High School—Addition involving the removal of the State Street Grammar School.

Technical High School—Addition involving the purchase of adjacent land.

Jefferson Avenue School—Addition involving the purchase of adjacent land.

Primary and Grammar School near St. James Avenue east of the Boston & Albany Railroad—Land and building.

Primary School at Rushville—Land and building.

Barrows School—Purchase of adjacent land for playground.

In the judgment of the School Board the land for all of these buildings should be acquired at once, and buildings erected in the order indicated by the above grouping as rapidly as the finances of the city will permit.

Hooker School—As negotiations are now pending between the City Property Committee and the School Board regarding the disposal of the Hooker School and the erection of new schools in that vicinity, no recommendations are made as to needs in this locality.

When a building is constructed for a school, the plans in most cases call for certain rooms in the building which are not intended for class rooms, for example, sewing rooms or recitation rooms. Now when such rooms are taken by the City Property Committee and converted into class rooms, the efficiency of that school is lowered from the standpoint of accommodation and the children henceforth lose something

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that previous children have enjoyed. This tendency is not progressive and should not be encouraged.

To the average citizen the addition of one seat to a room or the utilization for a class room of a room set aside for other purposes may seem of little moment. It has been proven by experience that the average class room is filled to its limit when the number reaches 42. More than this number a teacher cannot handle to advantage, neither can the ventilating system furnish them with proper air. The occasional transgression of this rule is of little importance, but to-day fifty schoolrooms in Springfield have more than 42 children in them, and repeatedly recitation rooms and sewing rooms are being turned into class rooms.

In every district, school accommodations should be capable of expansion without compromising original plans or congesting the schoolrooms.

Under the existing charter the erection and control of school buildings comes under the jurisdiction of the City Property Committee, the personnel of which changes every year. If some arrangement could be made whereby these two bodies, the City Property Committee and the School Board, could become more closely affiliated, it would tend toward better co-operation and greater accomplishment.

THE HIGH SCHOOLS.

The purpose of the high schools of Springfield, as your Board interprets it, is to train the child to enter easily and gracefully the field which lies just beyond his graduation. The time is no longer when a graduate of your schools entering a business or industrial occupation finds himself in a new country with symbols and language unfamiliar to him, to begin forthwith, as it were, a new life. If the girl is to live at home after she leaves school, she is trained to appreciate home life, taught how to undertake its manifold duties and to further

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develop tendencies in her nature that may mean latent talent. So in commercial and technical life the stepping-stone is furnished by the high schools, and gradually their curriculums become more complex and intricate as they strive to serve modern demands.

CENTRAL HIGH SCHOOL.

The work in the Central High School during the present year has not changed materially from that in previous years. Two new elective courses have been added in household arts and household science. None of this work is allowed to be substituted for any of the academic work previously required. These courses have already proved popular.

The headship of the English department, after being vacant for a year and a half, has been filled by the appointment in September of Frederic R. Willard, whose enthusiasm and experience have already given the work an impetus that is felt. The teachers in the department deserve great credit for their able management of the situation for so long a time with this important position unfilled.

Great importance is attached to the publication of the honor list at the end of four years. This has led the faculty to believe that the publication of such a list from all classes each time that reports are issued, that is four times a year, will have a stimulating effect upon the scholarship of the school. The experiment will be made, and the first quarterly honor list will be published in January.

The regular work of the school has been continued with zeal and success. The scholarship of the school as a whole is steadily increasing.

TECHNICAL HIGH SCHOOL.

The growth of this school is steadily increasing, already taxing to the limit the schoolrooms proper and the machine

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shops, so that extra sessions are now required to give some of the boys a chance to get their machine practice. To increase the number of pupils to a teacher, to hold recitations in laboratories—both are sure to diminish efficiency. The need of more room is apparent and must be met in the near future. The rapid improvement in machinery, the new methods, for instance, of working with high speed steel, all demand the modernizing of the machine shops if the training given to boys is to be kept up to date. The Technical High School has been in operation long enough to obtain a perspective on its training and the testimony of many of its graduates bespeaks the invaluable instruction received at this school.

HIGH SCHOOL OF COMMERCE.

As the public well knows, this school is to train young people to prepare for business life or to become trained assistants to business men. It fulfills every want hitherto supplied by business colleges and other similar institutes. It, therefore, must sooner or later spell the decline of these institutions, as it is apparent that the resources of a municipality behind such a school can readily furnish a better and broader training to the young people, and this without cost. That this is true already is the testimony of many prominent business men. The school runs an employment bureau in connection with its work, thus drawing still closer to the man of affairs. The demand for graduates is constant. Up to the present time the supply cannot begin to meet this demand.

SITE FOR THE HIGH SCHOOL OF COMMERCE.

The site for the High School of Commerce has been chosen on the land on upper State street where the Olivet Church formerly stood. The choice of this site was made after many meetings of the City Council and several conferences of the

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School Board. The choice of the Board until the final decision by the Council remained for the Temple street site, but the city fathers thought this too expensive and not large enough for the purpose intended. Now that the location is chosen, it is earnestly hoped the building will be erected as soon as possible, as the urgent need for this new high school is felt more and more every day. Coincident with this comes a demand for an addition to the Central High School which shall incorporate a gymnasium. The gymnasium facilities for girls have always been extremely poor in that school, and if this important branch of training is to be carried on properly, certainly the equipment and the room used should be suited to the purpose. Your Board is loath at this time to refer to a building on the Temple street site as offering advantages both as to gymnasium facilities and overflow from the present congestion at the Central High School. The distance from the Olivet Church site precludes the use of that building for either gymnasium purposes or this overflow, and therefore a new addition to the present Central High School is imperative.

THE EVENING HIGH SCHOOL.

The Evening High School is now fifteen years old and its growth during these years is shown by the following table:—

	1897–1898.	1911–1912.
Enrollment	313	822
Average number belonging	206	440
Average attendance	148	334
Per cent. of attendance	72	76
Number of teachers	8	21

The increase in the number of pupils is not the only or the most important change that has taken place in the school, but as the result of the effort to meet the vocational needs of the pupils, there has come about a distinct change in the

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character of the work done in the school. During the first year only two commercial subjects—bookkeeping and stenography—were taught, and these represented only 14% of the classes in that school. At present there are seven different commercial subjects,—penmanship, commercial arithmetic, bookkeeping, commercial law, commercial English, stenography, and typewriting,—and to-day these represent 53% of the classes in the school.

From these statistics it is apparent that this school is becoming distinctly an evening commercial school. It is now supplanting previous education of large numbers of young people by offering a training that will help them to earn promotion to better positions and more profitable employment. It has become, therefore, a very important factor in the economic life of the city.

PHYSICAL CULTURE IN THE HIGH SCHOOLS.

The department of Physical Culture is laboring under some difficulties that not only make it hard to arrive at definite conclusions but greatly lessen the efficiency of the work done in this important department. All the girls from the Technical High School and all the boys from both the Central High School and the High School of Commerce have to pass out of doors to attend the gymnasium classes held at either the Central or Technical gymnasium. This passing from one school to another properly clothed and with plenty of time is not objectionable, but when attended by a waste of valuable time on account of the distance and the consequent haste of preparation and travel, together with the hurried exercises in a poorly ventilated gymnasium, the process becomes a menace to the health of the pupils, to say nothing of the efficiency of the training received.

The makeshift gymnasium at the Central High School basement, used by the girls of the three high schools, is without

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any definite form of ventilation and too small in every respect, while the gymnasium of the Technical High School, used by the boys of all three high schools, is already overcrowded and is poorly ventilated. At present the two gymnasiums are occupied every period, every school day in the week, from 8.10 in the morning until 5.30 in the afternoon. There is not enough room for locker space, so that every locker is used by two pupils. Owing to the fact that the High School of Commerce occupies the Central High School building immediately after the morning session, the periods for the Central High School boys are so shortened by the necessary passing to and from the Technical High School gymnasium that it causes a continuous rush for these pupils and leaves but from eighteen to twenty minutes for actual work in the gymnasium. The Technical High School girls are in a similar situation. The programs at the schools are so very different that depending, as they do, upon the free periods for their assignment to the gymnasium classes, it is next to impossible to grade the boys and girls in accordance with their classification in school. This lessens efficiency by at least 30%, especially in the boys' work.

Of the various phases of our gymnasium problem, therefore, those concerning the lack of proper time, both in reaching and in using the gymnasiums, and the lack of adequate facilities for organizing each class, are the most serious.

The decision of the City Council is to place the new high school so far from the Central High School that co-operation in physical training between these two schools will be impracticable. The erection of a new gymnasium for the Central High School becomes an immediate necessity.

VOCATIONAL SCHOOL.

The Vocational School is established to give a practical industrial training to boys who intend to seek employment as

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soon as possible after leaving school. To encourage the establishment of such schools, the state has wisely offered to co-operate with cities and towns in furnishing aid, provided certain standards are maintained. Much latitude is left to the local authorities in the school curriculum, and while the state agents have definite recommendations to give, if the school as established meets their approval it will receive state aid. This aid consists in the payment of 50% of the running expenses of the school. From time to time the school is inspected and the books audited by the state authorities, the accounts being kept on forms suggested by them. The pleasantest relations exist between local and state authorities, and the Vocational School on Taylor street has received from them many words of commendation.

Boys leaving this school obtain excellent positions without trouble, as the three years' training renders them valuable workers in their different vocations.

At this school the pupil learns both theory and practice. He is first confronted with the problem itself; he then makes his estimates, draws his working plans, and continues with the construction of the article until he has the finished product. Work done by these boys is excellent, and their productions compare very favorably with those made in the best machine and carpenter shops.

The boy's general training is not lost sight of during this industrial training, and such cultural studies are given as will give him a broader idea of the importance of his work. These studies include shop arithmetic, shop English, spelling, industrial geography and history, reading, and composition.

UNGRADED SCHOOLS.

The question has arisen in regard to the outlying schools, whether it is better to conserve the spirit of local interest in a community by maintaining an ungraded school in that

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locality, or to secure the advantages of graded schools where numbers add to the element of emulation and the accommodations cater to greater educational efficiency. Your Board inclines toward the latter view, though in most cases this brings up the problem of transportation, which experience has shown is a vexing one. It is worthy of serious consideration if it is not advisable for the Board to undertake this transportation and not let out contracts which are more or less unsatisfactory.

THE OPEN-AIR SCHOOL.

This school has been in operation now more than a year and the results come fully up to expectations. The children at this school are enthusiastic advocates of fresh air. Their parents are glad to acknowledge its benefits. The school proves the value of fresh air, simple food, and rest in the treatment of children physically below par. In the first ten weeks of the present term, an average gain was made of 3.3 pounds per pupil. For the detail of the management and curriculum of this school, you are referred to last year's report.

You are reminded that much of the burden of expense as to food and service is still met by the Anti-Tuberculosis Association and that originally the building itself was erected by this society. Your Board feels that the demonstration of its value has been sufficient to warrant the city's maintenance of this school without this constant expense to a worthy charity.

SCHOOL SANITATION.

The Open-Air School and the open-window rooms are teaching sensible lessons along the lines of school sanitation. These lessons emphasize the fact that cold, fresh air does little harm and stimulates both mind and body. The present consensus of opinion is that 65 degrees Fahrenheit is warm enough for a schoolroom, and that where necessary it is a simple matter

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for parents to provide a child with an additional wrap. The dangers from draughts and the fear of pneumonia rest chiefly with those who are without experience in such matters. The fact that hundreds of delicate children in the country remain in open-air schools throughout the year ought to militate against hot rooms and dull minds. The new methods of ventilation are in accord with this idea. Though the indirect system of ventilating schoolrooms has held sway for a good many years, to-day we see the new heating systems call for direct radiation in the schoolrooms, and in all cases this allows the windows to be open at the top. According to some of the best authorities, the end of the indirect system is in sight, and the ventilation in the future will depend on direct heating, open windows, and proper air deflection.

PLAYGROUNDS IN SCHOOL YARDS.

The character of the playground in the school yard can often be determined by a glance at the school floor, especially if it be a damp day and after recess. It would hardly seem necessary to emphasize this matter, but much of the dirt tracked into the schoolroom could be avoided by altering the character of the approach from the playground. In most cases a few loads of fine macadam would serve this purpose.

THE EXTENDED USE OF SCHOOL BUILDINGS.

The use of school buildings for meetings of mothers' clubs and parents' meetings suggests strongly the value of the extended use of the schoolhouse. That such usage will go far toward furnishing a bond between the school and the home is beyond question. Other cities and towns have carried to successful conclusion the wider use of the school properties, and the people's forum thus established is of great value in extending the educational influence of the school. On such a

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platform can appear speakers of local and national prominence under the auspices of the school department, who can lecture on a variety of subjects in the realm of education. A definite idea of the interest shown in popular lectures at schools has been evident through the fall and winter in the lectures on hygiene given in several of the schools by physicians associated with the Society for the Prevention of Tuberculosis. These lectures have been well received, and the people have appeared eager to obtain information on this important subject.

INDIVIDUAL TRAINING.

Much has been said in times past regarding the training of children in public schools, and the criticism is often voiced that with so many children in a room little can be done to encourage the brighter child or help along the backward. To a certain extent this is true, but steady progress is being made to correct this difficulty. In the larger schools several rooms may constitute one grade, enabling the teacher to group the children more according to their intellectual abilities. The backward child can be placed in the grammar preparatory school, where more special attention can be given to his needs. In one of the schools, namely the Forest Park School, promotion is by subjects rather than grades, thus enabling the child to continue his studies while repeating the one subject in which he is deficient. This does not require the child to repeat his whole year's work in one grade if he fails in one subject.

Certain children who have rather marked peculiarities are referred for special examination. The school department has fitted up with psychological and anthropometrical apparatus the small building in the rear of the public library, and through the courtesy of Dr. George E. Dawson the children are studied and advice given as to their best disposition. Many of the children are found to be unfit subjects for public schools, and

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the parents are advised to send them to schools for special training, as, for example, the school at Waverley. These studies are conducted once a week, and Dr. Dawson, who is an expert in these matters, gives his services without pay for this purpose.

MEDICAL INSPECTION.

Medical inspection in schools has continued in Springfield for more than four years. Though it comes under the control of the Board of Health, it may not be amiss to emphasize the value of its work in the city schools. That it does unquestioned good and has proved well-nigh indespensable is very true, as evidenced by the marked decrease in contagious diseases. During the present year complete physical examinations are being made in the lower grades, and these physical records are to accompany the child from year to year as does the educational record. The annual dental inspection by school physicians has resulted in noticeable improvement in the teeth of school children. All this is certainly in the right direction, yet there is lacking co-operation on the part of the home, and it is this special point to which your attention is called.

Many children take home cards of advice from the school doctor to which absolutely no attention is paid by the parents. To be sure, this does not hold true among the better type of parents, yet there are scores of fathers and mothers in this city who resent this action even when palpable defects of eyesight and hearing are apparent and in urgent need of attention to prevent their becoming worse. Here again there is need of a bond between the home and the school in order that these difficulties may be explained and smoothed away.

In some cities nurses have been appointed whose duty it is to take up these matters and gain the co-operation of the home in the treatment of the child. This has been found to prevent much loss of time in school, and in many cases estab-

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lishes more friendly relations between the parents and the school authorities. Your Board hopes that the near future will see such nurses in the Springfield schools.

SOCIAL HYGIENE.

Social workers and educators throughout the country are seriously considering the problems of social hygiene among the young people. In some cities special instruction is given along these lines, beginning with the plant and carrying the lesson on through animal life to the study of propagation in man. Certainly there is sad need of information on this important subject. Children are bound to learn much regarding these matters at a very early age, and, if at this time proper teaching could remove that air of mystery and secrecy that hangs like a cloud around the subject, much could be accomplished. It goes without saying that the home in many cases is the proper place for this instruction, yet in many more instances obviously this matter cannot be rightly handled at home and then comes the question whether or not it ought to become part of the teachers' duty to impart this knowledge.

VACCINATION.

When for a length of time varying from ten to twenty years a community has been free from smallpox, there grows up here and there a strong sentiment against compulsory vaccination. This is the condition at present in some sections of this city. The present law states that no child shall attend school unless vaccinated or excused from vaccination by a registered physician who gives in writing a certificate stating the cause for such exemption. It is obvious that when the cause has ceased to continue, a certificate gives no further exemption. Numerous cases are now on record where one exemption card is held to cover the school life of the child,

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and strenuous opposition is made to a renewal of this certificate. The City Solicitor's opinion, on file at the School Office, is to the effect that such a card of exemption becomes null and void after the termination of the cause stated. If the disability be permanent, the card still holds force. A child is required to attend school, though not necessarily public school, until he reaches the age of fourteen. If he does attend public school, he must comply with the above regulations. A recent case is worthy of mention in this respect, where the parents obviated the necessity of vaccination by sending the child to a private school.

This statement with regard to the often vexing problem of vaccination and exemption is sufficiently clear to remove all doubt as to the proper course of the School Board when such questions arise in the future. The consensus of scientific opinion to-day is entirely in accord with the attitude of Massachusetts in requiring vaccination, and your School Board thoroughly believes that the modern operation of vaccination is a safe and harmless procedure.

NEED OF AN AUTOMOBILE FOR THE SCHOOL DEPARTMENT.

The schools of Springfield are scattered over a wide territory. To keep in touch with the management of these schools requires frequent visiting by the Superintendent. The school sessions are short and therefore the time in which these visits can be made is necessarily limited. Very much of the valuable time of the Superintendent would be saved if an automobile could be placed at his service. It would enable him to use for his more important school duties much of the time now spent in street cars. Your Board hopes that it may be enabled to make this purchase in the near future.

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RETIRING MEMBERS.

The new year marks the retiring from our Board of two of its members, the present chairman, Mr. Wilkinson, who has served eleven years, and the member from Ward Two, Mr. Pulcifer, who finishes his third year. These gentlemen, giving unsparingly of their time and energy, have rendered very valuable service to the city. Your Board will miss their advice and assistance and greatly regrets their departure.

Respectfully submitted for the Board,

RALPH B. OBER.

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ANNUAL REPORT

OF THE

SUPERINTENDENT OF SCHOOLS.

To the School Board:—

In accordance with the requirements of your Rules and Regulations, I have the honor to present to you my report of the schools for the current year.

The first noteworthy fact to be recorded is that of a large increase in enrollment and attendance. This was to be expected since the city is known to be experiencing a remarkably rapid increase in population. The high schools are filled so nearly to the limit that after they receive the midyear accessions from the grades, they will doubtless have as large an enrollment as they can conveniently accommodate. In several sections of the city, small rooms in elementary schools, not intended as class rooms, have had to be used to relieve classes excessive in size. The increase from October 27, 1911, to October 25, 1912, is shown by the following table:—

These figures were taken from the reports of attendance for the month ending Oct. 27, 1911, and Oct. 25, 1912.

	Enrollment.		
	1911.	1912.	Increase.
High	1,834	1,892	58
Elementary	11,705	12,170	465
Kindergarten	966	1,165	199
	14,505	15,227	722

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AVERAGE NUMBER BELONGING.

	1911.	1912.	INCREASE.
High	1,770.9	1,821.8	50.9
Elementary	11,350.0	11,815.3	465.3
Kindergarten	853.4	1,039.3	185.9
	13,974.3	14,676.4	702.1

AVERAGE DAILY ATTENDANCE.

	1911.	1912.	INCREASE.
High	1,695.8	1,748.5	52.7
Elementary	10,638.3	11,178.3	540.0
Kindergarten	678.3	888.2	209.9
	13,012.4	13,815.0	802.6

This table shows that the increase in average attendance in the elementary schools and kindergartens within one year has been 750. A building of sixteen class rooms would be required to accommodate this number of children if they could be assembled in one place. Indications point to at least an equal increase yearly for several years to come. It is evident, therefore, that a relatively large expenditure for new buildings and additions to existing buildings must be made each year if Springfield is to keep pace in its school accommodations with the continued growth of the city in population, which there is every reason to expect.

The following table shows the distribution of children in the elementary schools of Springfield on the age and grade basis:—

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TABLE 1.

DISTRIBUTION OF PUPILS BY AGES AND GRADES IN SEPTEMBER, 1912.

AGES.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Totals.
Under 5 years.	16									16
5 years.	437									437
6 years.	937	225	3							1165
7 years.	410	588	204	10						1212
8 years.	114	394	565	176	16	2				1267
9 years.	31	124	382	419	190	16				1162
10 years.	11	36	202	365	440	188	21			1263
11 years.	7	19	59	148	334	376	179	23	1	1146
12 years.	2	6	30	90	203	341	337	168	24	1201
13 years.	1	3	9	67	114	170	313	352	157	1186
14 years.	1	1	10	23	47	77	146	250	295	850
15 years.			1	13	7	16	34	117	227	415
16 years.	1	1				3	5	32	74	116
17 years.					1			5	26	32
18 years.								2	4	6
Totals.	1968	1397	1465	1311	1352	1189	1035	949	808	11474

(This table does not include pupils in kindergartens, in grammar preparatory, special preparatory, or vocational schools.)

The "age and grade" criterion for judging progress and retardation is not altogether reliable, for in such a table children who enter late and have made regular progress appear as retarded along with those who have been held back to repeat one or more grades. A more satisfactory arrangement of data for the study of retardation is applied in Table 2 to a class of pupils who entered the ninth grade last September. This arrangement takes into account both "age" and "years in school" as well as "grade." By the use of a table made on this basis, the children are divided into young,

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normal, and over-age groups, on the basis of age, and again into rapid, normal, and slow groups, on the basis of the number of years taken to reach present grade position.

The class of 461 pupils beginning ninth grade work has been chosen for analysis in order to throw light upon the age at which pupils may secure promotion to the high schools and the number of years they require for preparation. Like data for the class just beginning high school work would better answer this purpose, but the figures are not available.

TABLE 2.

Years in School.	AGES. 11	12	13	14	15	16	17	Totals
4					1			1
4½								
5		1		2				3
5½		1	1	1	1			4
6	2	6	14	5		1		28
6½		5	9	3	1			18
7		19	46	34	13	2		114
7½		1	14	15	3	2		35
8		2	62	73	21	7	1	166
8½			2	14	11		1	28
9				22	23	4	1	50
9½					4	2		6
10					1	5		6
10½						1		1
11							1	1
Totals	2	35	148	169	79	24	4	461

This table shows that in September there were 461 children beginning the work of the ninth grade. By referring to the top row of figures, it will be seen that these children varied in

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age from 11 to 17 years, and reference to the first column shows that they had been in school from 4 to 11 years. According to the commonly accepted standard, the age of fourteen years is the normal age for children beginning the ninth grade in a nine grade system; and thus, by drawing through the table the two heavy vertical lines, we divide the figures into three groups, leaving on the left all the children below normal age, and on the right those above normal age. When the figures of the three groups are added, we have the following results:—

Below normal age	185
Normal age	169
Above normal age	107

In a similar way, divisions into progress groups are readily made of children in the IX B grade who have been eight years in school and have made normal progress; and these we separate from the rest by two heavy horizontal lines. Those remaining above the lines have made rapid progress, while those below have made slow progress. Adding the figures for these groups, we have the following:—

Rapid progress	203
Normal progress	166
Slow progress	92

We have noted that 107 pupils are over-age and that 92 have made slow progress, but we see that the terms "slow" and "over-age" will not invariably refer to the same pupils. Some of the "over-age" children are not slow and some "slow" pupils are not over-age. Each age group is divided into three progress groups, and each progress group into three age groups. We find two pupils who are young but slow, twenty-four who are over-age but rapid, and other combinations between. If we add the figures in each division, we have a new table in which our 461 children are distributed by age and progress groups as follows:—

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TABLE 3.

AGE AND PROGRESS GROUPS OF GRADE IX B PUPILS.

	Young.	Normal.	Over-Age.	Total.
Rapid	119	60	24	203
Normal	64	73	29	166
Slow	2	36	54	92
Total	185	169	107	461

Reducing these numbers to a percentage basis, we have the following:—

TABLE 4.

DATA OF TABLE 3 CHANGED TO A PERCENTAGE BASIS.

	Per cent Young.	Per cent Normal.	Per cent Over-Age.	Total.
Per cent rapid	26	13	5	44
Per cent normal	14	16	6	36
Per cent slow	0	8	12	20
Total	51	26	23	100

By reference to Tables 3 and 4, we see that 119 of these pupils, or 26%, are not only under-age for the grade, but they have progressed at more than normal speed. They are the exceptionally capable pupils of the grade. At the other extreme we find 54 children, or 12% of all in the grade, who need special attention because they are both over-age and slow; 39 of them are already 15 years old, 12 of them are 16 years old, and 3 of them are 17 years old. The fact that the work of the upper grades has been attractive enough to hold these pupils when they might have entered the Vocational School or have left school and sought employment is perhaps sufficient evidence that the school is fulfilling its obligation to them.

It cannot be reasonably expected that our school machinery will be so adjusted as to advance all pupils to the high school in the same time or at the same age. It is perhaps fair, how-

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ever, to judge the efficiency of a school, at least in part, by the balance it maintains between the number of pupils it advances from grade to grade in less than schedule time and at an age lower than standard age, and the number it advances only after more than schedule time and at more than standard age. Table 4 makes a satisfactory showing in this respect. We see that 51% of those advanced to this ninth grade were young for the grade as compared with 23% who were old for the grade; and that 44% had made rapid progress as compared with 20% who had made slow progress. The balance is largely in our favor on both counts.

The table for Grade IX A, comprising 347 pupils, discloses facts so similar to those shown in the table for Grade IX B that it will not be reproduced here.

The total number of pupils in Grade IX is 808. The number in Grade VIII a year ago was 926. There has been a loss of 118 pupils, or about 13%. Tracing this class back toward first grade, where it started in September, 1904, with 1610 pupils, we find the losses as shown in the following table:—

TABLE 5.

ANNUAL LOSSES SUSTAINED BY A CLASS OF 1610 PUPILS WHO ENTERED FIRST GRADE IN SEPTEMBER, 1904.

From Grade	VIII	to Grade IX,	118 pupils, or 13%.
From Grade	VII	to Grade VIII,	126 pupils, or 12%.
From Grade	VI	to Grade VII,	70 pupils, or 6%.
From Grade	V	to Grade VI,	12 pupils, or 1%.
From Grade	IV	to Grade V,	87 pupils, or 7%.
From Grade	III	to Grade IV,	46 pupils, or 4%.
From Grade	II	to Grade III,	26 pupils, or 2%.
From Grade	I	to Grade II,	317 pupils, or 19%.

These figures are taken from the table on page 220 of this report.

It is plain that pupils drop out of school in great numbers

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after they reach the seventh grade. The percentage of loss would be even larger if it were not for the fact that losses have been in part balanced by large accessions due to the rapid increase in the population of the city during the eight year period in question.

Table 4 deals with pupils who remain in school through the elementary course. Its showing is creditable to the school system.

Table 5 deals with pupils who do not remain to complete the elementary course. It suggests the need of some variation of existing plans by which this excessive loss of pupils may be reduced. Springfield is not alone in having this problem of elimination to reckon with. Economic conditions, being as they are, it is not probable that any plan can be devised that will hold all children in school till they complete the traditional elementary course. Earlier differentiation of courses is being tried in several cities, but it is yet too soon to expect results of convincing character. Experience under the various plans now on trial points toward the continuation school with compulsory part-time attendance under state authority as one important feature of the ultimate solution.

We need a good deal more light upon the mental constitution of our pupils, especially of those who seem to be below or above normal, before any marked improvement of existing conditions can take place. Several cities have already established laboratories in which all children who are in any way peculiar in their mental make-up are examined by a trained educational psychologist who gives definite and authoritative advice as to the training suited to each particular case.

This is undoubtedly the next forward step in education. It is gratifying to be able to state that a beginning has been made here. In October, the board supplied the necessary apparatus, and Dr. George E. Dawson, a specialist, whose work in Hartford has attracted much favorable attention, has

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since devoted Friday of each week to the examination of abnormal children enrolled in our public schools. The Library Association has allowed the use of a room for this purpose, and Dr. Dawson's services have been gratuitous.

Of thirty-two cases examined so far, eighteen are plainly of such low mentality that they can learn nothing except under custodial care. Their presence in school is detrimental to the interests of the normal pupils, and their care entails unwarranted expense. These children should be placed in the state institution at Waverley. Of the other fourteen cases, one is nearly blind, one is an epileptic, one is anæmic, four might learn if placed in a special class, and there are seven who are able to acquire knowledge through symbols only with the greatest difficulty. These pupils might learn through objects or manual activity, and would, if properly trained, become educated in a true sense of that term. It is certain that we have in our schools many children not feeble-minded, but of this object-minded type, for whom provision should be made in several different centers.

We need the regular paid services of a competent specialist to aid, first, in relieving the schools of the burden of those children who are too feeble-minded to profit by school instruction, a number estimated at one half of one per cent of the entire elementary school enrollment, or, for this city, approximately fifty or sixty cases; second, to diagnose the mental condition of about three and one half per cent of the elementary school enrollment next above the feeble-minded in intellect, for the purpose of discovering the children for whom the ordinary curriculum is not fitted and to advise as to the kind of activity which will best fit each child of this type to become a self-directing, self-supporting member of society. An educational clearing house managed in such a way as to fulfill these two purposes would render a service to education in the city out of all proportion to its cost in money. It is interest-

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ing to note the public interest in these special phases of education and social endeavor.

At a meeting of the Central Philanthropic Council, a committee for the study of the feeble-minded of Springfield was formally appointed and its purpose recorded as follows:—

1. To discover and record cases of mental defect in the community.

2. To persuade parents or guardians to place improvable cases in public school special classes, or in private schools for atypical children, or in state institutions for the feeble-minded for education.

3. To interest employers in protected mentally defective persons who may have acquired the ability to perform skilled or unskilled labor.

4. To endeavor to remove from the community all unprotected feeble-minded persons to the permanent custodial care of state institutions.

5. To secure volunteer aid when necessary to carry on the work of the committee.

6. To hold regular monthly meetings.

7. To keep a confidential card catalogue with records of each case.

8. To record any facts in connection with feeble-minded children that may shed light upon the general problem of feeble-mindedness and to cultivate in the community an interest in determining the causes and prevention of such feeble-mindedness.

9. To help mold public opinion to the need of providing opportunities for the education of the feeble-minded to the limit of capacity, and to the dangers of unprotected feeble-minded persons in the community.

The committee consists of Dr. George E. Dawson, educational psychologist; Miss Abigail F. Brownell, probation officer for women and girls; Mr. Donald North, probation

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officer for boys; Mr. John A. Parker, truant officer; and Miss Frances E. Cheney, teacher of the special class for defectives.

HEALTH SUPERVISION.

Medical inspection has long held an important place in the public school system. Originally, its chief aim was to prevent the spread of communicable disease. Under modern conditions of life in our cities, this service is not enough. Gradually the necessity of exercising definite supervision over the health and development of school children, in addition to the precautionary service originally undertaken, has come to be one of the most vital functions of the public school system.

So many inquiries come to this office about the scope of medical inspection in our schools, and the manner in which it is carried on, that Dr. Edgar H. Guild, the Clerk to the Board of Health, has, at my request, prepared the following statement for my use in replying.

"Medical inspection is now accepted as having a definite value and position in the training and education of the child in the public schools. Its development in Springfield has been in keeping with the best thought of those who have made a special study of the work, and although at present under the immediate charge of the Board of Health, the department has at all times sought and received the co-operation of the School Board. It would seem to be a secondary consideration as to which department will eventually assume the control of this work, as it is assumed that either department can undertake the organization of a separate division whenever it becomes necessary, from the enlargement of the scope of medical inspection, to establish what might properly be called 'A Division of Child Hygiene.'

"The work at present is carried on by thirteen physicians (now under civil service appointment) who visit each public

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and parochial school on Monday and Thursday, weekly, during the school year. This routine inspection is classified under the following heads:—

"A. The detection of cases of communicable diseases, with their exclusion from school and an immediate report to the Board of Health.

"B. The examination of children with parasitic skin diseases and affections, with exclusion from school unless receiving proper treatment at home.

"C. Examination of children who have been absent from school three days on account of illness. Children recovering from any of the communicable diseases except diphtheria or scarlet fever are only admitted to school after a favorable inspection by the examiner. Diphtheria and scarlet fever are readmitted only by a card from the Board of Health.

"D. Children ill from any cause are also sent to the inspector, and, when indicated, suitable cards are sent to the parents informing them of conditions found.

"The above mentioned routine work is supplemented at any time by special daily inspections of children in the different rooms where cases of scarlet fever or diphtheria have occurred; cultures from the throat are taken of any suspicious cases and the daily oversight continued until the danger of further infection is passed. The desk, seat, and other washable articles used by the pupil are treated with a disinfectant; books, pencils, papers, etc., are either destroyed or fumigated. Schoolrooms are not disinfected or schools closed on account of the presence of infectious diseases. Dependence is placed on daily inspections as above outlined, and thus far the method has proven satisfactory and successful.

"A simple but satisfactory system of recording the work of inspection is used which shows at all times the amount of work which is being done. Each inspector sends a weekly report of inspections to the Board of Health Office, so that the department is always in touch with the work. The statutes require that every child attending the public schools

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must be vaccinated, with certain exceptions therein stated. This work is performed by the inspector, on request, but no child is vaccinated by the inspector without permission from parents or guardian.

"Children between fourteen and sixteen years of age desiring to work are also examined by the inspectors and certificates given, stating their fitness to perform the work required. These children go to the office of the medical inspector who has charge of the schools in the district where the applicant resides.

"In addition to the routine inspection, a yearly physical examination of every child in the common schools has been established. This examination includes an inspection of teeth, tonsils, and adenoids. A card record is kept of the yearly examination. The card is arranged to provide for recording these examinations for ten years, beginning with the kindergarten, and accompanies the pupil from year to year as he is promoted. In other words, these records show at a glance the physical condition and development of the child during his school life. The cards remain in the schools for the special use and information of the school authorities, and should become valuable in directing the education of the child.

"The testing of eyesight and hearing is conducted by the room teacher, as directed by statute. The information is, however, added to the physical record cards. The entire work is now fairly well systematized, and future enlargement of the scope of medical inspection will follow as rapidly as the needs become well defined. The percentage of children absent from school on account of sickness or ailments of various kinds is being reduced, but it is believed that this absent percentage can be still further reduced by an enlargement of the inspection service which would come through the employment of school nurses. This matter is believed to be of so much importance that the school nurse has become an essential part of

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the inspection services in many cities. A beginning should be made, and it is hoped to be able to provide at least two nurses at an early date, who will supplement the work of the inspectors by a more personal and detailed knowledge of the conditions surrounding the child in the home, and in a tactful manner become of assistance to many parents by timely advice and instruction in matters connected with the welfare of the child, as well as actually assisting in the care of special cases which may be out of school for lack of proper treatment."

Following is a list of the medical inspectors employed by the Board of Health:—

Dr. E. J. Sweeney,	Dr. Ralph B. Ober,
Dr. W. H. Chapin,	Dr. T. F. Reardon,
Dr. M. W. Harrington,	Dr. E. T. Smith,
Dr. L. J. McCarthy,	Dr. C. E. Street,
Dr. J. P. Hillard,	Dr. H. A. Hosley,
Dr. Allen G. Rice,	Dr. R. S. Benner,
Dr. G. T. Lamarche,	Dr. H. Ritter.

I wish especially to indorse the reference in Dr. Guild's last paragraph to the need of nurses who will supplement the work of the medical inspectors, and to emphasize the importance of that recommendation. I wish to suggest, also, that the establishment of a dental clinic where school children could be treated either free or at cost would be a most desirable addition to the facilities for health supervision in Springfield as it already has in many other cities.

GROUP INSTRUCTION.

Aside from the course of study itself, no question relating to the management of schools, with the exception, of course, of the personality and efficiency of the teacher, is more vital than the plans by which, though taught in groups, children may advance in the course at a rate of progress conditioned only by their own powers of body and mind. The more closely

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a school system approximates this ideal in its promotion plans, the more fully it meets its legitimate obligations. For reasons of economy it is necessary to instruct children in groups. In order that the instruction may be effective, any given group of children must be reasonably homogeneous in attainment and power. Its members must be ready to take up the same work and to advance as a class. Even with the most careful grouping, the members of a class will exhibit individual differences with which the teacher must reckon, but obviously the larger the number of children of the same grade in a given building, the closer can the grading be and the more nearly homogeneous the classes. This consideration has long been recognized in Springfield.

For many years the city has followed the plan of grouping several rooms of the same grade in one building so that scholarship divisions could be made within the grade. This organization of the schools, together with special rooms for the mentally slow and the half-year interval between classes which prevails throughout the system, provides conditions favorable to the classification of pupils according to their needs. But such a result cannot be secured without the exercise of large discretion on the part of the principal of the school. Hence, absolute uniformity in plan is not required. Principals are encouraged to experiment within reasonable limits and to suggest improvement on the basis of their experience. Any satisfactory treatment of this exceedingly important phase of school work must depend very largely upon the intelligent initiative of the only person in a supervisory capacity who is always on the ground and who knows all the children of the school. This is the school principal.

PROBLEMS IN SCHOOL MANAGEMENT.

In response to a request from this office for a report of any problem in school management upon which a principal had

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been working during the past year, three brief accounts of plans that are being tried out, and one study of certain school conditions, have been sent in. These reports are from the State Street School, Miss Harriet C. Emerson, principal; the Chestnut Street School, Mr. Albert Candlin, principal; the Forest Park School, Mr. George E. Foss, principal; and the Buckingham School, Mr. Arthur P. Irving, principal. They are given place in this report because they illustrate the doctrine of reasonable liberty, coupled with responsibility, which we hold to be essential in the case of a school principal, if he is to render his best service to the school system.

State Street Grammar School, Grades VII to IX—400 Pupils.

For several years past it has been the custom in the State Street School to select semiannually twenty-five or more of the most capable eighth grade pupils and to group them together for more intensive work than can be required of less capable pupils. By adjusting the school program to the needs of these pupils, they have been enabled to complete the work of the eighth and ninth grades in a year and a half instead of two years. This arrangement, together with the plan for promotion by subjects inaugurated this fall, will provide opportunity for more rapid advancement on the part of bright children.

Chestnut Street Grammar School, Grades V to IX—1200 Pupils.

In each grade the children are grouped according to their proficiency in language. This gives a satisfactory general classification, because in a school of this size there are so many classes of each grade. The subject of language also occupies, directly or indirectly, about half of the school time. As soon as it appears that any child is in advance or behind his language group in any subject, arrangement is made for him to

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study that subject with the group above or below. When he is able to do the larger part of his work with the half grade above, he is advanced to that grade regardless of the time of year. The records show that during the last school year the number of children who were saved in this way from demotion, or who gained an extra promotion, were equal in number to two ordinary sized classes. There can be no doubt that with the aid of a special teacher, this number would be increased materially. This method has been in use in this school for three years. The value of it is shown by the fact that the percentage of failures has decreased during that time from about fifteen to about five.

FOREST PARK GRAMMAR SCHOOL, GRADES VI TO IX—600 PUPILS.

Promotion and grading by subjects, as practiced in this school, have in view two considerations,—first, pupils differ in their capacity for doing school work; second, the same pupil's capacity is often not the same in all subjects of study. In this plan the pupils are graded and promoted by subjects in their prepared work. They take their unprepared work in the group with which they take the greater part of their prepared work. The unprepared subjects are music, drawing, penmanship, cooking, sewing, manual training, and gymnastics. Under this plan some of the prepared subjects are so closely related that their combined time value is counted equal to that of other subjects of the longest time value. The amount of work set down in the course of study to be covered in any half-year in these subjects or groups of subjects is called a unit of work. The units are as follows: (1) reading and spelling; (2) grammar and composition; (3) arithmetic; (4) geography or history.

A different organization of the school is made for each of the above units of work. In each unit each pupil is placed in the grade where he is best fitted to work, and his progress

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from grade to grade in any unit does not depend upon his progress in any other unit, nor does the progress of one pupil depend upon that of any other pupil. At promotion time he advances in each unit that he passes and repeats only those units in which he fails. Since there is a wide difference in the amount of work which pupils can carry, all pupils are not given the same number of units. The course of study calls for four units of work and the majority of pupils take just four units, but some pupils cannot carry successfully the regular amount, so a few are given three units of work and a very few only two units. On the other hand, it is found that about 35% of the pupils can carry more than the four units of work; 143 pupils, or 23%, are taking five units of work, and 69 pupils, or 11%, are taking six units of work. The first year this system was used 80 pupils carried extra units of work. This year, with a special teacher for these extra units of work, it has been possible to arrange a schedule so that there are now 212 taking extra work. Many of these exceptionally bright pupils take this extra work while the slower pupils are having study periods, and others are grouped in special scholarship divisions where rapid progress is made. During the study periods the teacher spends her time in helping individual pupils.

The individual opportunity that is offered by this plan of promotion fixes personal responsibility and produces a seriousness of purpose that results in a much higher standard of work and more rapid progress.

Buckingham Grammar School, Grades VI to IX—525 Pupils.

A Study of School Efficiency Based upon the Regular Reports to Parents.

In so far as the pupils fail to respond to the stimulus of the school and show weakness under examination and in daily

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recitation, the school falls short of the ideal, and it becomes the immediate duty of teachers and other school officials to discover wherein it is failing, why it is failing, and if possible the remedy for the defective conditions.

The marks given in the reports to parents are the teachers' summing up of the pupil's daily work and of his examinations in various subjects. These marks are the clear expression of attainment and indicate the degree of success or failure. This attainment for a period of one month, or two months, or for a half-year, is indicated in each subject by the letters A, B, C, D, and E. The numerical or percentage value of "A" is above 90; of "B" between 90 and 80; of "C" between 80 and 70; of "D" between 70 and 60, and of "E" below 60. "D" is considered a failure, and "E" a serious failure to do the work of the class. "A," "B," and "C" indicate a passing or successful rank.

The following summary of the rating of pupils for the months of September and October was made to express in definite form the percentage of successes and failures for each grade in each subject. Each teacher sorted the report cards of her class and found the number of pupils having a given rank in each subject. The marks of all the classes of each grade were then combined. From the sum of the three success marks was found the percentage of success of each grade in each subject. (See Table 1.) It is possible for each teacher to get the percentages for her own class, but it must be kept in mind that in classes graded according to ability, the percentages will naturally vary greatly.

After the percentage of success in each study is obtained, a second chart (Table 2) is made for the purpose of comparing the successes in the daily, or prepared, subjects, and a third chart (Table 3) summarizes results in the special or part-time subjects.

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TABLE 1.

ARITHMETIC — SEPTEMBER AND OCTOBER, 1912.

	Number of pupils marked						Per ct. of	Per ct. of
	A	B	C	D	E	Total.	Success.	Failure.
IXA.....	1	20	24	10	1	56	80.4	19.6
IXB.....	0	13	27	19	18	77	52.0	48.0
VIIIA ...	11	11	14	9	7	52	69.3	30.7
VIIIB ...	16	32	26	21	4	99	74.8	25.2
VIIA	2	15	29	16	13	75	61.4	38.6
VIIB	6	23	29	5	5	68	84.7	15.3
VIA.....	2	7	21	7	7	44	68.2	31.8
VIB.....	8	16	10	7	3	44	77.3	22.7
	46	137	180	94	58	515	70.5	29.5
Per cent. each rank	8.9	26.6	34.9	18.2	11.2			

A, B, C, indicate success; D, E, failure; E, serious failure.

A similar chart is made for each subject of the curriculum and the percentages of success carried to Tables 2 and 3.

TABLE 2.

DAILY OR PREPARED WORK, SUCCESS RECORD, PER CENT OF SUCCESS (MARKS ABOVE D), SEPTEMBER AND OCTOBER, 1912.

	Arith.	Geog.	Gram.	Read.	Spell.
IX A.....	80.4	74.	80.4	76.7	77.2
IX B.....	52.	83.2	85.3	86.5	77.4
VIII A.....	69.3	84.7	86.3	97.9	100.
VIII B.....	74.8	86.	99.	95.	92.
VII A.....	61.4	69.5	87.4*	97.3	75.
VII B.....	84.7	86.7	100. *	98.6	73.6
VI A.....	68.2	79.7	97.7*	87.3	95.6
VI B.....	77.3	72.1	93.7*	93.2	80.
Whole School.....	70.5	80.2	89.2 94.8	91.8	83.2

Note marked lack of success in Arithmetic and lowering of per cents from VIII B up in four of the five subjects.

*In Grades VI A and B and VII A and B the subject is Language instead of Grammar.

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TABLE 3.

PART-TIME SUBJECTS, WITH DEPORTMENT AND APPLICATION, SUCCESS RECORD, PER CENT OF SUCCESS (MARKS ABOVE D). SEPTEMBER AND OCTOBER, 1912.

	Pen.	Draw.	Music.	Sew.	Cook.	M. T.	Dep.	App.
IX A...	80.3	76.3	78.5		100.	100.	75.	86.8
IX B...	75.3	68.	67.9		100.	100.	89.7	93.5
VIII A..	86.3	91.3	91.1	100.		100.	95.5	95.5
VIII B..	97.	80.8	93.	97.9		100.	100.	100.
VII A...	90.4	80.	86.1		100.	100.	100.	91.7
VII B...	88.2	92.6	92.6		100.	100.	98.5	95.2
VI A....100.		100.	97.7	100.		100.	95.6	93.4
VI B....	95.4	100.	86.3	100.		100.	75.	95.5
Whole School	87.4	87.9	86.1	99.1	100.	100.	92.6	94.5

Deportment and application marks considered here on the same basis as in the prepared subjects, but a C mark here is very poor and usually a record to be censured.

VARIABILITY OF SUCCESS IN VARIOUS SUBJECTS.

(Not more than 80 or less than 45 pupils in any grade.)

	Highest (Prepared Work).	Lowest (Prepared Work).	Average Rate per week.
IX A	80.4 Arith. and Gram.	74.0 Geography	77.0
IX B	86.5 Reading	52.0 Arithmetic	74.0
VIII A	100.0 Spelling	69.3 Arithmetic	87.0
VIII B	99.0 Grammar	74.8 Arithmetic	89.0
VII A	92.3 Reading	61.4 Arithmetic	78.0
VII B	100.0 Language	73.6 Spelling	88.0
VI A	97.7 Language	68.2 Arithmetic	85.0
VI B	93.7 Language	72.1 Geography	83.0

Arithmetic was highest in one grade, and lowest in five grades; geography lowest in two grades; and spelling lowest in one grade.

Arithmetic, the easiest of all subjects to mark, and the easiest in which to obtain definite results, stands lowest in rate of success.

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Pupils of IX B with above rate of 52% in arithmetic had a rate of 85% in the previous half-year. Pupils of VII A with a rate of 61.4% in arithmetic had a rate of 56.7% in the previous half-year.

The personal equation must be taken into account in any study based upon the teachers' marks, but an effort should be made to reduce the amount of variation.

The same percentage process applied to a set of examination papers, either before or after the time of reports to parents, will show the teacher whether the percentage of success in her class is rising or falling. For example, a grammar test in IX A grade shows a percentage of 72.2%, while their percentage in Table 2 is 80.4%. The average rank of the pupils in this examination is 75, a figure that tells very little as compared with the success percentage.

It is evident from the above study that in arithmetic the percentage of success is much too low in proportion to the time and effort expended, and as compared with the other subjects; that geography percentages are lower than might reasonably be expected; that grammar and literature in grades VIII and IX show a variation and an increasing proportion of failure that seem scarcely warrantable, if prolonged experience and study lead to greater power; that spelling is still an unsettled problem; that in penmanship, drawing, and music, accomplishment varies too much; that sewing, cooking, and manual training, which come only once a week, are either the easiest for the pupils, because the best adapted to them of all the subjects or the standard for marking is less exacting. To determine whether the course of study is at fault, compare the success percentage of a class with its own record in previous grades and with the percentages of the same grade in several schools of the city.

It appears that, as compared with the special subjects, the prepared subjects show a lower percentage of success because (*a*) greater initiative and more steady effort are required of the

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pupil; (*b*) the teacher is better acquainted with the pupil's ability and accomplishment; (*c*) subject is treated more intensively.

Teachers must realize that a 60% success means that 4 out of every 10 pupils are failing, or 16 in a class of 40. Knowing the condition, they should seek to remedy it, and, if unable to do so, should bring it to the attention of the principal of the school. If (*a*) pupils are prepared for grade, present all the time, and industrious, (*b*) teaching well done, and (*c*) oral and written tests suitable, pupils should meet tests successfully, even with many A and B ranks. As a matter of fact teachers are so used to looking for failures, and finding them, that they are apt to feel guilty when the marks run high. "A's are hard to get in my room" and "It is not often that a child wins an A mark in this school" are boasts not infrequently made by teachers. When he accomplishes over 90% of the work required of him, a pupil is marked A. If he gets A in several studies we call him a wonder and boast of his phenomenal A card. This, in spite of the fact that the class was adjudged fitted for that part of the course of study and that every effort has been made by teacher and pupils. Yet a pupil who gets and does over 90% is a wonder. This means that teacher and the class are working in an atmosphere of mediocrity and failure and calling it a normal condition. How low a percentage of success in the various studies is allowable can be determined only by a long series of studies like this one and made in several schools. A low percentage of success may be looked upon as a wasteful process. We must eliminate waste, as in a manufactory. We must regard the failures as a departure from the normal, not from the phenomenal. At least, we must know why our success rate falls, even if the remedy, in some cases, seems beyond the present stage of human development.

NOTE.—These four schools are organized departmentally.

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The reports of the supervisors of special departments include many items of general interest. Extracts and suggestions from these reports follow.

ART WORK.

Public school art work has of late years become so closely associated with hand work that it is rather difficult to speak of the art work by itself. The two lines have become so closely related in this city that it has seemed wise this year to present the art and hand work in one course of study, including all the work in drawing, paper, cardboard, sewing, weaving, wood, leather, metal, clay, and cement now arranged for the nine grades below the high schools.

The work comprising many well tested problems has been arranged to meet the needs of the half-year sections into which all classes are divided. Close co-operation between the supervisors of drawing and manual training insures the development of well related lines of art and hand work in our schools. Projects are presented each year for which the plan, design, or decoration is made in the drawing class, the object being constructed in a manual training class. By this arrangement the design can always be planned for practical application and yet time be left for the necessary amount of illustrative and representative drawing and water color painting.

In some of the larger grammar schools a teacher especially fitted for the work has in part been conducting eighth and ninth grade classes in drawing. In order to make the work in these grades more uniform and provide the smaller buildings with as good service as the larger ones, it was considered wise to extend this plan to include all eighth and ninth grade classes throughout the city. The change is already demonstrating its value, and improvement is noted in all the schools affected in the new assignment.

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With the increased number of schools and new rooms opened during the past few years, it had become impossible for the supervisor and one assistant to care properly for the work. With the aid of a second assistant, each room can now be visited once in four weeks and the supervisor is able to see each grade teacher in her room at least once each half-year and give definite help.

NATURE STUDY.

The Supervisor of Nature Study, Miss Fannie A. Stebbins, has presented a plan, which is highly suggestive, for a department of the Vocational School to be devoted to gardening, horticulture, and agriculture in its intensive phases. This plan involves the use of the Benton street property owned by the city and now vacant. It is yet too early to make positive recommendations, but as soon as the details can be worked out, the complete proposal will be presented for your consideration.

MANUAL TRAINING.

It is the aim of the hand work from the first grade through the ninth to interpret the activities of home and community life. Beginning with the first grade with a study of the home, the children are taught to construct from paper and cardboard simple furniture for a four-room doll house. They weave rugs for the floors, print the wallpaper with block prints, and model dishes, kitchen utensils, etc., from plasticine. A study is made of house construction, and the children acquire, by actual work with the materials involved, a practical knowledge of building processes, such as cement block making, wood frame construction, cement coating on metal lath, and plastering.

In the manual training shops the work takes on a more industrial aspect, and the construction and uses of the tele-

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graph, derricks, bridges, and typesetting, the making of etchings, and printing, are some of the projects worked out in the sixth, seventh, and eighth grades. Each of the grammar schools having eighth and ninth grades is now equipped with a hand lever printing press, and the student printers are making very good progress. This is one of the most profitable forms of hand work from the standpoint of its educational possibilities, involving, as it does, spelling, the writing of English, and the practical application of design.

In the course of these industrial studies, the boys gain experience with a great variety of materials, their ingenuity is taxed, and they are brought into contact with important activities in the city.

PHYSICAL TRAINING.

Modern civilization is very hard upon the child. Nature did not make him so that he could adapt himself easily and healthfully from the very beginning to the restrictions of urban life. His growing organism requires not only activity of mind but of muscle. His playtime is very largely reduced by society. The neurologist tells us that the child's brain is so organized that the energy resulting from metabolism of nerve cells flows into motor nerves and tends to energize muscles, hence the tremendous amount of "restlessness" in children. It is, therefore, quite necessary that a system of physical training should embody enough of work and play to care for that spontaneous demand for muscular activity so evident in the normal child. It should take into account more than the formal gymnastic training in the schoolroom or gymnasium.

Gymnastic exercises relieve nerve tension and are quieting to the child. They restore vital organs that have been placed in cramped and unhealthful positions to normal activity, and so strengthen the whole organism. These activities are of special service in promoting the healthful activity of the brain.

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They are of service, too, in developing the body symmetrically and giving it poise and good carriage.

In the elementary schools of the city, especially in the first and second grades, story plays take the place of formal gymnastics. In all the grades above the second, formal gymnastics (held in the class rooms and halls), rhythmical exercises, games, and folk dancing are used to attain the ends sought. The chief end is health, or resistance against disease. More specifically classified, the aims of this work in the grade and grammar schools are:

First, training pupils to stand, walk, and sit correctly—to lessen the possibility of curved spines.

Second, securing that muscular control so valuable to the human mechanism in relation to responsive movements induced through sound and sight.

Third, the cultivation of a good, healthy spirit of comradeship, fair play, co-operation, and cheerful obedience to law.

Fourth, the general hygienic effects of muscular exercise.

During the past year an appeal to the social and play instincts has been made by the further development of exercises of rhythm and folk dancing. The enthusiasm and increased interest that have been manifested testify to the need of this kind of activity as part of the regular physical exercise in all the grades.

Continuing the system of physical training into the high schools, the necessity of safeguarding the health of mind and body is felt even more keenly than in the grades, for during the adolescent period our high school boys and girls are called upon to concentrate upon mental tasks during longer class periods and during more hours of the day. The strain of school studies tells with especial severity upon girls. To insure robust health later, the highest physical vigor is absolutely necessary at this time of life, and it is for this reason, if for no other, that some form of muscular exercises must be provided

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for them. In spite of inadequate facilities, there is ample evidence of the value of this work for our high school girls. The school records show in every case a healthy increase in lung capacity and flexibility of chest walls.

"A sound mind in a sound body" is the formal aim of the department of physical training.

MUSIC.

The work in the grades is laid out and administered in accordance with printed lessons, each grade being supplied with a leaflet suited to its needs.

In the high schools the growth in musical interest is very gratifying. There are three choruses, all organized on an elective basis, whose aggregate enrollment will exceed five hundred pupils. In the Central High School there are glee clubs, one of boys and one of girls, both voluntary and meeting after the close of the session. In the Technical High School there is a glee club of boys, similar to that noted above. Each of the three schools has a good orchestra, which is composed of pupils who are interested in this form of musical activity and who give their time and effort to the work, A mandolin club, made up of boys from all three schools, is doing good work and is in some demand for engagements outside of school hours.

The vocal organizations referred to are under the direction of the Supervisor of Music, but a lack of time at hours when it would be convenient for the pupils to meet makes it impossible for him to supervise the work of the others. This is to be regretted.

Plans are under way for presenting to the public an exhibition of the chorus work in the high schools during the next half year, at a concert to be given in the new Auditorium.

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WIDER USE OF THE SCHOOL PLANT.

I had expected to include in this report an account of the activities of several parent-teacher associations that meet from time to time in our schoolhouses, and of the more numerous informal gatherings held to promote better acquaintance between teachers and parents, but space is lacking for such treatment of the topic as its importance merits. This one thing, however, should be said: In each school hereafter erected, there should be definite provision for community use of the building, either by a suite of two or more rooms easily converted into one, or by an assembly hall, preferably on the first floor.

Respectfully submitted,

JAMES H. VAN SICKLE,
Superintendent of Schools.

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REPORT OF THE

Assistant Superintendent of Schools.

Superintendent James H. Van Sickle.

DEAR SIR: As it is becoming more difficult year by year to sum up within the limits of a brief report the manifold activities of the various departments of our schools, I present this year, instead of the usual brief review of the work of several departments, a detailed history of the kindergarten department from the time of its establishment until the present.

Springfield was somewhat more conservative with regard to the establishment of kindergartens as a part of the common school system than many cities less advanced in other respects. This may have been due in part to the fact that several excellent private kindergartens were in operation for some years before the public kindergartens were inaugurated. Among the teachers of these private classes were Mrs. A. M. Aldrich, one of the noted pioneer exponents of kindergarten theory and practice in the United States, and Miss Angeline Brooks, a widely known author and an enthusiastic student of Froebel's principles of education.

The first kindergarten in any way connected with the public schools was opened in 1893 in the Pynchon School. It was supported by private funds, but the City Property Committee granted the free use of two rooms in the Pynchon School Building. This kindergarten was in charge of Miss Grace Fairbanks (now Mrs. H. M. Burr of this city) and Mrs. Julia Schniewind. It enrolled about 50 children under six years of age. This was the beginning of a movement that led

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to the establishment of the present system of public school kindergartens.

In 1894 the city assumed the support of the kindergarten in the Pynchon School, and in addition opened new kindergartens in the Carew street and Buckingham schools. The immediate enrollment of 50 pupils in each of these kindergartens gave evidence that the public welcomed this provision for the care and training of young children.

In 1895 a fourth kindergarten was opened in the East Union Street School and fifty children were enrolled there, with no perceptible falling off in the number in the Buckingham Kindergarten, although the two schools are in close proximity.

In the same year a private kindergarten was established in connection with the Industrial Institute, a private school founded in 1886 for the purpose of providing the young people of the city with an opportunity to secure instruction in the manual arts.

In 1896, Miss Hattie Twichell was called from the Milwaukee State Normal School to take charge of the Industrial Institute Kindergarten, which had been in operation one year, and when two years later a public manual training high school was opened in the city and the Institute was closed, Miss Twichell organized a private school for the training of kindergarten teachers that is still in operation.

Up to 1897 no schoolrooms had been constructed with special reference to their occupation by kindergartens, but from this date on, every new building, and every addition to an old building, that was to contain a kindergarten, was constructed with a view to the needs of this form of education. The provision made in these newer structures for kindergarten classes is very nearly ideal, and the architects' plans have served as models for many other cities.

A separate entrance, with vestibule and cloak rooms, expedites the dismissal of pupils, and is conducive to their

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safety and well-being. In addition, the kindergarten suite consists of a large, well-lighted play and assembly room, two class or recitation rooms, commodious cupboards or closets for the storage of supplies, and separate toilets and wash rooms with small sized furnishings suited to the use of young children.

In 1896, additional kindergartens were opened in the South Main Street, the Hooker, and the Jefferson Avenue schools, in the new quarters so admirably adapted to their needs.

The sentiment in favor of kindergarten instruction continued to grow, and in 1897 a number of public spirited citizens formed an organization known as the Springfield Free Kindergarten Association, with Mr. George D. Chamberlain as its president during the first year, and Mr. George Dwight Pratt as its second president. The object of the association was the establishment of private kindergartens in those sections of the poorer neighborhoods of the city not already supplied with them, in the hope that the school department would in time assume the burden of their support. The Free Kindergarten Association maintained a kindergarten on Chestnut street at the head of Sharon street, and also one in connection with the Day Nursery. These centers were closed when public kindergartens were established in their vicinity, and the association was dissolved after three years of active and effective service for the extension of kindergarten privileges in the congested districts of the city.

The following table gives the kindergartens now in operation, with the date of their establishment:—

1893—Pynchon Street.
1894—Buckingham and Carew Street.
1895—East Union Street.
1896—South Main Street.
1897—Hooker and Jefferson Avenue (Carew Street discontinued).
1898—Homer Street and Indian Orchard Primary (Buckingham discontinued).

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1899—Eastern Avenue and Forest Park.
1901—Armory Street and William Street.
1902—Central Street.
1903—Tapley.
1904—Indian Orchard Grammar (Pynchon Street discontinued).
1905—Howard Street.
1909—White Street.
1910—Brightwood.
1912—Kensington Avenue and Sumner Avenue (Forest Park discontinued).

THE POLICY OF THE SCHOOL BOARD WITH REGARD TO THE LOCATION OF KINDERGARTEN CENTERS.

It has been the policy of the Board from the beginning to locate kindergartens where they are likely to do the greatest amount of good and meet the needs of the largest number of patrons. It has not been deemed necessary to place them in all the primary buildings, but every district of the city, except the School Street and the Worthington Street districts, has one or more kindergarten centers. Because of lack of suitable quarters no kindergartens have so far been maintained in either the School Street or the Worthington Street schools, but whenever a schoolroom can be spared for the purpose, the Board will doubtless establish a kindergarten in the Worthington Street district.

AGE OF PUPILS.

Children are admitted to the kindergartens at four years of age, and to the first grade of the elementary schools at five years; provision is thus made for but one year's kindergarten training. This period is often extended in the case of children of foreign parentage, or of children who, in the judgment of parents or teachers, are likely to be especially benefited by the longer period of training before entering the first grade. The term is also extended in the case of children who show signs of

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physical disability. Permits for such extension of kindergarten privileges may be obtained upon application at the office of the Superintendent of Schools.

TEACHING FORCE.

Each kindergarten is in charge of a head teacher, or director, with one assistant teacher, except where there is an attendance of 60 or more pupils, in which case an additional assistant is provided. The teachers employed have all had special training for their work and are the graduates of some accredited kindergarten training school. The salary of the assistants is about five-sevenths of the salary paid to kindergarten directors, as it is possible to secure in the capacity of assistants teachers who are desirous of obtaining the experience demanded in positions of greater responsibility.

In every kindergarten there is, in addition to the director and her assistant, a "helper" or "caretaker," who assists the teacher in caring for the children, in distributing materials, and in playing the piano for the singing, marching, and games. This helper is untrained and receives for her services from two to three dollars per week, the latter sum being paid to those caretakers who have some special skill as musicians.

In practice, the kindergarten teachers of the city are neither ultra-conservative nor extremely radical. They are not bound by tradition, but maintain in general an open-minded attitude that is conducive to growth. Most of the small, Froebelian material in use ten years ago has been replaced by the larger material approved by physicians and recommended by modern educators, and the games are much less formal than of old, affording large opportunity for individual initiative on the part of children.

KINDERGARTEN FURNISHINGS.

Each kindergarten is furnished with the necessary number of chairs and tables, a piano, blackboards, a doll house and

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toys, a desk for the teacher's use, and the special materials needed for purposes of instruction. This list of furniture gives no idea of the beauty and charm of the rooms, however, for much good taste has been brought to bear in the tinting of the walls, the selection of pictures, and the placing of decorative friezes and posters made by teachers or pupils in illustration of some of the phases of life about which the kindergarten activities center.

AFTERNOON PLAY SESSION.

During the five months of the year in which the weather is favorable for school attendance on the part of young children, two sessions daily are held in the kindergartens, but from the last of November until the first of May there is but one daily session, beginning at 8.45 and closing at 11.30 A. M. The afternoon sessions held in the autumn and spring are devoted very largely to free play, and attendance is optional, the pupils being invited to return to the kindergarten in the afternoon if their parents wish them to do so. Whenever feasible, these afternoon sessions are held in the open air, and they are a source of much delight and profit to the children who avail themselves of the privileges they afford.

PROGRAM FOR MORNING SESSION.

The following program indicates the order of exercises for the forenoon session in a typical kindergarten:—

8.35 (or 8.40)—8.55:	Free play—children occupied with toys, balls of various sorts, and sense training material.
8.55—9.20:	Morning circle or assembly, with singing, stories, and talks about natural objects.
9.20—9.40:	Marching, games, and other forms of physical activity.
9.40— 9.50:	Intermission.

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9.50—10.15:	Work with the gifts or occupations.
10.15—10.30:	Lunch (very simple and provided by the children).
10.30—10.55:	Games, free play, or rhythmic exercises.
10.55—11.20:	Work with gifts or occupations.
11.20—11.30:	Dismissal.

NEW CENTERS.

A kindergarten was opened during the past year in the Kensington Avenue School and there were 50 pupils enrolled in it. The rooms in the Forest Park School, occupied for many years by a kindergarten, were needed last spring for grammar school purposes and the kindergarten was transferred to the new Sumner Avenue School, in which specially designed rooms had been built for it. The attendance upon this center is comparatively small as yet, but this is a temporary condition that will soon correct itself, as the school is in a growing district.

ENROLLMENT IN KINDERGARTENS AND COST OF KINDERGARTEN INSTRUCTION.

The following data will be of interest to taxpayers:—

KINDERGARTEN ENROLLMENT:—

Nov. 1, 1910, 862.
Nov. 1, 1911, 966. (Increase over 1910, 104. Per cent. of increase, 12.)
Nov. 1, 1912, 1165. (Increase over 1911, 199. Per cent. of increase, 20.6.)

NUMBER OF TEACHERS IN KINDERGARTENS:

Nov. 1, 1910, 29. (15 kindergartens.)
Nov. 1, 1911, 33. (16 kindergartens.)
Nov. 1, 1912, 39. (17 kindergartens.)

AVERAGE NUMBER OF PUPILS TO A TEACHER (BASED ON ENROLLMENT):

Nov. 1, 1910, 29.72.
Nov. 1, 1911, 29.27.
Nov. 1, 1912, 29.87.

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AVERAGE COST PER PUPIL, BASED ON AVERAGE NUMBER BELONGING (EXCLUSIVE OF HEAT, LIGHT, AND UPKEEP OF BUILDINGS):

1910	$26.18
1911	28.60
1912	29.84

The increase in enrollment in 1912 of 20.6 per cent. is worthy of note. The increase of $2.42 in cost per pupil in 1911 is due to the increase in teachers' salaries that became effective in that year. The increase of $1.24 per pupil in 1912 may be accounted for by the fact that more than the usual number of kindergartens have had an attendance during some portion of the year of sixty and above, thus requiring an additional assistant. The assignment of a second assistant to a kindergarten enrolling less than 70 or 75 pupils increases the cost per pupil out of all proportion when compared with kindergartens not quite large enough to call for an additional assistant, but such assignment is necessary to the successful conduct of the work.

THE KINDERGARTEN CLUB.

No history of the kindergartens of Springfield can possibly be considered complete that omits mention of the Kindergarten Club, an organization that has done much for the intellectual and professional development of its members while maintaining a live and practical interest in all forms of social and civic progress. This club celebrated its twentieth anniversary last month, and the reports of its work given at that time by several of its charter members gave evidence of the steady, altruistic purpose which has characterized the association ever since its organization in 1892.

The club has contributed generously to the support of various local charities, and has given assistance to a number of needy schools and kindergartens in other localities. Through its efforts many lecturers of note have been introduced to the

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Springfield public, and each year a course of lectures of special interest to parents and teachers has been arranged by the club.

On the whole, the record of the development of the kindergarten department in our schools has been marked by a spirit of progress that promises much for the future.

Respectfully submitted,

BERTHA M. McCONKEY,

Assistant Superintendent of Schools and Supervisor of Primary Schools and Kindergartens.

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STATISTICS

ACCOMPANYING

Superintendent's Report.

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FINANCIAL STATEMENT

For the Fiscal Year Ending November 30, 1912.

Valuation of the city, 1912,		$149,530,350 00
Value of school buildings, land, and furniture,	$2,985,877 34	
Value of books, supplies, and apparatus,	108,833 39	
Kindergarten equipment and supplies,	3,189 79	
Technical School equipment, materials,	24,420 09	
Cooking School equipment and supplies,	3,790 37	
High School of Commerce equipment and supplies,	6,280 69	
Vocational School equipment and supplies,	10,418 16	
Tools and furniture in hands of Schoolhouse Agent,	921 28	
Janitors' supplies, Schoolhouse Agent,	558 09	
Fuel on hand,	12,600 00	
Total value of school property,		$3,156,889 20

ORDINARY SCHOOLS.

Appropriation,	$419,000 00	
Transfer from Vocational School,	800 00	
Transfer from Cooking Schools,	100 00	
Money advanced for office expenses,	100 00	
		$420,000 00
Expenditures, as below,	$419,745 95	
Return of money advanced for office expenses,	100 00	
Balance unexpended,	154 05	
		$420,000 00

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EXPENDITURES.

SALARIES.

Day School teachers,	$348,647 30	
Evening School teachers,	11,532 50	
		$360,179 80
Superintendent,	$5,000 00	
Chief Clerk,	2,149 95	
Clerical assistance,	2,170 77	
Truant officer,	1,400 00	
Truant officer's assistant,	1,200 00	
Clerical assistance at High School,	768 03	
Clerical assistance at Evening High School,	94 75	
Clerical assistance at Evening Primary and Grammar School,	6 00	
Clerk School Committee,	100 00	
Clerical assistance at Chestnut Street School,	446 75	
		$13,336 25

BOOKS, ETC.

Regular text-books,	$8,505 25	
Supplementary text-books,	811 08	
Book covers and book mending materials,	1,201 34	
Binding books,	579 59	
Reference books,	1,383 83	
		$12,481 09

PAPER, ETC.

Writing paper,	$2,960 14	
Manila practice paper,	904 40	
Drawing paper,	862 97	
Notebooks and spelling blanks,	770 43	
Blotting paper,	66 00	
Amounts carried forward,	$5,563 94	$385,997 14

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Amounts brought forward,	$5,563 94	$385,997 14
Envelopes,	189 77	
Bookkeeping paper and blank books,	509 55	
Pressboard and cardboard,	224 28	
Miscellaneous paper supplies,	174 79	
		$6,662 33

MISCELLANEOUS SUPPLIES.

Ink,	$208 72	
Paste, mucilage, and glue,	101 08	
Pens and holders,	444 60	
Lead pencils,	1,081 30	
Drawing pencils,	119 94	
Water color paints,	508 00	
Paint pans, cups, and brushes.	118 22	
Colored drawing crayons,	246 38	
Miscellaneous drawing supplies,	300 96	
Thumb tacks and paper fasteners,	133 90	
Rubber erasers,	221 60	
Crayon,	59 05	
Blackboard erasers,	292 50	
Sponges,	288 09	
Rules,	43 32	
Miscellaneous supplies,	522 94	
Hygiene supplies,	83 00	
Kindergarten materials,	48 00	
Sewing supplies,	125 99	
Laboratory supplies, Central High School,	622 19	
Laboratory assistance, Central High School,	139 55	
Elementary science supplies,	142 59	
		$5,851 92

PERMANENT EQUIPMENT.

Science apparatus, Central High School,	$1,096 18	
Elementary science apparatus,	90 06	
Maps, charts, and globes,	42 00	
Amounts carried forward,	$1,228 24	$398,511 39

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Amounts brought forward,	$1,228 24	$398,511 39
Drawing boards,	21 60	
Miscellaneous drawing equipment,	52 97	
Compasses,	205 75	
Scissors,	161 00	
Pencil sharpeners,	58 00	
Piano,	445 00	
General equipment,	239 50	
Office equipment,	36 00	
		$2,448 06

MANUAL TRAINING.

Equipment,	$660 12	
Material and supplies,	2,693 25	
Sundries,	546 71	
		$3,900 08

PHYSICAL TRAINING.

Equipment,	$736 54	
Supplies,	44 85	
Sundries,	318 03	
		$1,099 42

PRINTING.

Annual report and school manuals,	$629 18	
Teachers' report blanks and record books,	157 76	
Office blanks, blank books, and stationery,	213 77	
Courses of study,	75 81	
Schedule of recitations,	85 96	
Evening School blanks and notices,	89 57	
Graduation invitations, programs, etc.,	97 64	
Miscellaneous,	730 72	
		$2,080 41
Amount carried forward,		$408,039 36

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Amount brought forward,		**$408,039 36**

SUNDRIES.

Transportation of pupils,	$1,595 00	
Expense of compiling school census,	650 00	
Advertising,	120 37	
Postage and telegrams,	450 91	
Telephones,	977 25	
Freight and express,	266 48	
Delivering supplies to schools,	1,148 93	
Assistance delivering supplies,	909 93	
Traveling expenses,	280 14	
Carriage hire,	27 50	
Tuning, repairing, and moving pianos,	83 00	
Matrons' services in bath rooms,	2,078 70	
Office supplies and incidentals,	130 82	
Newsboys' badges,	75 00	
Graduation expenses,	352 15	
Engrossing diplomas,	71 88	
Drawing assistance and models,	137 73	
Tuition refunded,	25 75	
Incidentals,	174 34	
		$9,555 88

JANITORS' SUPPLIES, ETC.

Brooms, brushes, and dusters,	$269 11	
Mops, mop rags, etc.,	197 53	
Linen towels,	14 50	
Paper towels,	476 29	
Paper towel fixtures,	28 60	
Soap, washing powders, etc.,	175 43	
Disinfectants,	87 92	
Toilet paper,	167 90	
Laundry,	490 52	
Flags and repairing,	100 65	
Shovels, pails, dustpans, baskets, etc.,	109 60	
Incidentals,	32 66	
		$2,150 71
		$419,745 95

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TECHNICAL HIGH SCHOOL.

Appropriation,		$62,340 00
Expenditures, as below,	$61,522 66	
Transfer to High School of Commerce,	710 00	
Balance unexpended,	107 34	
		$62,340 00

EXPENDITURES.

Salaries of teachers,		$51,732 15
BOOKS.		
Text-books,	$1,279 78	
Reference books,	21 16	
		$1,300 94
SUPPLIES.		
Drawing,	$724 63	
Laboratory,	279 94	
Machine shop,	248 36	
Forging,	154 19	
Woodwork,	130 38	
Household arts,	41 51	
Household science,	69 99	
Arts,	104 13	
Miscellaneous,	482 31	
		$2,235 44
PERMANENT EQUIPMENT.		
Drawing,	$362 72	
Laboratory,	184 17	
Machine shop,	319 84	
Forging,	48 25	
Woodwork,	512 47	
Household arts,	367 12	
Household science,	43 64	
Household science laboratory,	983 40	
Arts,	47 92	
General,	48 23	
		$2,917 76
Amount carried forward,		$58,186 29

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Amount brought forward, . . .		$58,186 29
MATERIALS.		
Machine shop, ...	$122 69	
Forging, ...	214 36	
Woodwork, ...	403 55	
Household arts, ...	16 06	
Household science, ...	191 60	
Arts, ...	43 82	
		$992 08
SUNDRIES.		
Printing, ...	$453 13	
Freight, express, and postage, . .	147 92	
Clerical assistance, ...	750 00	
Tool-room assistants, ...	585 38	
Laboratory assistants, ...	46 75	
Drawing assistants, ...	63 08	
Household science assistants, . .	20 16	
Arts assistants, ...	24 50	
Repairs, ...	152 57	
Incidentals, ...	100 80	
		$2,344 29
		$61,522 66

EVENING SCHOOL OF TRADES.

Appropriation, ...		$5,100 00
Expenditures, as below, ...	$5,011 97	
Balance unexpended, ...	88 03	
		$5,100 00

EXPENDITURES.

Salaries of teachers, ...	$4,238 24	
Materials, supplies, and equipment, .	523 31	
Sundries, ...	250 42	
		$5,011 97

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HIGH SCHOOL OF COMMERCE.

Appropriation,	$23,595 00	
Transfer from Technical High School,	710 00	
		$24,305 00
Expenditures, as below,	$24,300 72	
Balance unexpended,	4 28	
		$24,305 00

EXPENDITURES.

Salaries of teachers,	$21,393 65	
Clerical assistance,	510 84	
Text-books,	495 55	
Reference books,	17 46	
Equipment,	132 20	
Miscellaneous supplies,	1,407 55	
Sundries,	343 47	
		$24,300 72

COOKING SCHOOLS.

Appropriation,		$6,550 00
Expenditures, as below,	$5,999 18	
Transfer to Ordinary Schools,	100 00	
Balance unexpended,	450 82	
		$6,550 00

EXPENDITURES.

Salaries of teachers,	$3,222 50	
Furniture and equipment,	1,725 19	
Groceries and provisions,	938 42	
Incidentals,	113 07	
		$5,999 18

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KINDERGARTENS.

Appropriations,	$23,000 00	
Transfer from Vocational School,	700 00	
		$23,700 00
Expenditures, as below,	$23,666 45	
Balance unexpended,	33 55	
		$23,700 00

EXPENDITURES.

Salaries of teachers,	$22,770 46	
Furniture and equipment,	317 80	
Miscellaneous supplies,	535 99	
Incidentals,	42 20	
		$23,666 45

VOCATIONAL SCHOOL.

Appropriation,		$15,900 00
Expenditures, as below,	$14,313 22	
Transfer to Ordinary Schools,	800 00	
Transfer to Kindergartens,	700 00	
Balance unexpended,	86 78	
		$15,900 00

EXPENDITURES.

Salaries of teachers,	$7,512 50	
Equipment,	3,526 82	
Books,	13 30	
Supplies,	1,301 95	
Rent, heat, power, etc.,	1,657 42	
Incidentals,	301 23	
		$14,313 22

OPEN-AIR SCHOOL.

Appropriation,	*$400 00

*No expenditures under this appropriation.

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SUMMARY.

	Appropriations.	Transfers.	Appropriations, plus or minus Transfers.
Ordinary Schools,	$419,000 00	+$900 00	$419,900 00
Technical High School,	62,340 00	—710 00	61,630 00
Evening School of Trades,	5,100 00		5,100 00
High School of Commerce,	23,595 00	+710 00	24,305 00
Cooking Schools,	6,550 00	—100 00	6,450 00
Kindergartens,	23,000 00	+700 00	23,700 00
Vocational School,	15,900 00	—1,500 00	14,400 00
Schoolhouse Repairs,	32,150 00	+3,566 10	35,716 10
Schools, City Property Com.,	86,200 00	—213 16	85,986 84
Open-Air School,	400 00		400 00
	$674,235 00	$3,352 94	$677,587 94

	Appropriations, plus or minus Transfers.	Expenditures.	Balances Unexpended.
Ordinary Schools,	$419,900 00	$419,745 95	$154 05
Technical High School,	61,630 00	61,522 66	107 34
Evening School of Trades,	5,100 00	5,011 97	88 03
High School of Commerce,	24,305 00	24,300 72	4 28
Cooking Schools,	6,450 00	5,999 18	450 82
Kindergartens,	23,700 00	23,666 45	33 55
Vocational School,	14,400 00	14,313 22	86 78
Schoolhouse Repairs,	35,716 10	35,615 57	100 53
Schools, City Property Com.,	85,986 84	85,967 68	19 16
Open-Air School,	400 00		400 00
	$677,587 94	$676,143 40	$1,444 54

RECEIPTS.

	Tuition.	Other Receipts.	Totals.
Ordinary Schools,	$5,205 13	$314 80	$5,519 93
Technical High School,	6,956 20	148 59	7,104 79
Evening School of Trades,	1,393 67	66 45	1,460 12
High School of Commerce,	1,940 00	50 00	1,990 00
Vocational School,	201 50	15 98	217 48
	$15,696 50	$595 82	$16,292 32

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Expenditures in the Schoolhouse Agent's department, and expenditures for New School Buildings and for Alterations and Permanent Improvements, are made by the Committee on City Property of the City Government, not by the School Board. They are included in this report as a matter of information and convenience.

SCHOOLHOUSE AGENT'S DEPARTMENT.

ORDINARY SCHOOLS.

Appropriation,	$86,200 00	
Transfer from Pecousic Avenue Account,	211 84	
		$86,411 84
Expenditures, as below,	$85,967 68	
Transfer to Schoolhouse Repairs,	425 00	
Balance unexpended,	19 16	
		$86,411 84

EXPENDITURES.

Premium on boiler insurance,	$345 05	
Extra mopping,	350 20	
Electric lights and gas,	5,490 31	
Electric power,	2,101 83	
Extra mopping kindergarten floors,	373 40	
Lawns, tools, sidewalks, etc.,	794 97	
Agent's and janitors' salaries,	41,669 85	
Evening school janitors,	1,242 30	
Extra janitor service,	3,019 08	
Shoveling snow,	510 51	
Coal,	27,243 66	
Charcoal and wood,	458 43	
Clerical work,	608 00	
Sundry furnishings,	336 16	
Stationery and office supplies,	123 75	
Custodian at Technical High School,	300 00	
Automobile,	525 70	
Telephone rentals,	32 50	
Ash cans,	261 80	
Incidentals,	180 18	
		$85,967 68

SCHOOLHOUSE REPAIRS.

Appropriation,	$32,150 00	
Appropriation, extra,	3,141 10	
Transfer from Schools, City Property Com.,	425 00	
		$35,716 10
Expenditures,	$35,615 57	
Balance unexpended,	100 53	
		$35,716 10

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The expenditures chargeable to the different grades of schools are as follows:—

DAY SCHOOLS.

HIGH.

Teachers' salaries,	$46,903 75	
Clerical assistance,	768 03	
Text-books and book covers,	2,021 79	
Reference books,	298 02	
Writing paper, notebooks, etc.,	827 85	
Miscellaneous supplies,	395 44	
Laboratory supplies,	622 19	
Laboratory assistance,	139 55	
Science apparatus,	1,096 18	
Pianos, tuning, repairing, and moving,	27 00	
Miscellaneous equipment,	187 47	
Printing,	546 26	
Diplomas and graduation expenses,	304 65	
Postage, telegrams, and telephone,	184 29	
Physical training, supplies,	14 88	
Physical training, equipment,	638 50	
Physical training, sundries,	170 43	
Janitors' supplies,	335 19	
Laundry,	125 73	
Sundries,	173 73	
Proportion of general expenses,	1,971 20	
		$57,752 13

PRIMARY AND GRAMMAR.

Teachers' salaries,	$301,743 55	
Truant officers,	2,600 00	
Clerical assistance, Chestnut Street School,	446 75	
Text-books and book covers,	8,554 13	
Reference books,	1,083 64	
Amounts carried forward,	$314,428 07	$57,752 13

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Amounts brought forward,	$314,428 07	$57,752 13
Writing paper, notebooks, etc.,	5,634 63	
Miscellaneous supplies,	4,486 69	
Elementary science, supplies,	142 59	
Elementary science, equipment,	90 06	
Maps, charts, and globes,	42 00	
Physical training, equipment,	98 04	
Physical training, supplies,	29 97	
Physical training, sundries,	147 60	
Miscellaneous equipment,	992 57	
Manual training, equipment,	660 12	
Manual training, supplies,	2,693 25	
Manual training, sundries,	546 71	
Printing,	557 31	
Transportation of pupils,	1,595 00	
Matrons' services in bath rooms,	2,078 70	
Diplomas and graduation expenses,	117 78	
Janitors' supplies,	1,325 00	
Laundry,	364 79	
Pianos, tuning, repairing, and moving,	56 00	
Sundries,	974 93	
Proportion of general expenses,	11,861 84	
		$348,923 65

EVENING SCHOOLS.

HIGH.

Teachers' salaries,	$3,879 00	
Clerical assistance,	94 75	
Text-books,	155 95	
Miscellaneous supplies,	206 89	
Printing and advertising,	77 35	
Diplomas and graduation expenses,	44 55	
Sundries,	30 30	
Proportion of general expenses,	140 80	
		$4,629 59
Amount carried forward,		$411,305 37

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Amount brought forward, . .		$411,305 37

PRIMARY AND GRAMMAR.

Teachers' salaries, ...	$7,653 50	
Clerical assistance, ...	6 00	
Text-books, ...	367 56	
Miscellaneous supplies, ...	62 20	
Printing and advertising, . . .	69 72	
Proportion of general expenses, . .	281 60	
		$8,440 58
		$419,745 95

GENERAL EXPENSES.

Superintendent, ...	$5,000 00	
Chief Clerk, ...	2,149 95	
Clerical assistance, ...	2,170 77	
Clerk of School Committee, . . .	100 00	
Printing, ...	863 97	
Advertising, ...	61 22	
Postage and telegrams, ...	349 07	
Freight and express, ...	246 96	
Delivering supplies to schools, . .	1,148 93	
Assistance delivering supplies, . .	909 93	
Traveling expenses, ...	280 14	
Carriage hire, ...	27 50	
Newsboys' badges, ...	75 00	
Compiling school census, ...	650 00	
Office supplies and equipment, . .	141 87	
Incidentals, ...	80 13	
		$14,255 44

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COST PER PUPIL.

(Based on average number belonging.)

SCHOOLS.	Teachers' Salaries.	Text and Reference Books.	Supplies and Equipment.	Gen'l Expenses and Miscellaneous.	Total Cost per Pupil.
Central High School	$64.43	$3.19	$6.58	$5.13	$79.33
High School of Commerce	49.98	1.19	3.60	2.00	56.77
Technical High School	79.46	2.00	4.95	3.60	90.01
Primary and Grammar	26.84	.85	1.58	1.75	31.02
Evening High School	7.61	.30	.41	.76	9.08
Evening Prim. and Gram.	9.21	.44	.16	.34	10.15
Average for day schools	$32.30	$1.05	$2.09	$2.04	$37.48
Average for evening schools	$ 8.60	$0.39	$0.25	$0.50	$ 9.74
KINDERGARTENS	$28.71		$1.08	$0.05	$29.84

TECHNICAL HIGH SCHOOL.

(Average number belonging, 651.)

ACCOUNT OF THE SCHOOL COMMITTEE.

	Salaries.	Text-Books.	Materials and Supplies.	Sundries.	Totals.
Academic Department	$47.54	$1.99	$0.80	$1.18	$51.51
Mechanical Department	31.92	.01	4.15	2.42	38.50
Totals	$79.46	$2.00	$4.95	$3.60	$90.01

EVENING SCHOOL OF TRADES.

(Average number belonging, 379.)

Salaries.	Materials and Supplies.	Sundries.	Heat, Light and Power.	Total.
$11.19	$1.38	$0.66	$5.80	$19.03

Received for Incidental Fees	3.85
Net per capita cost	$15.18

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GENERAL STATISTICS.

POPULATION.

Population of the city, 1910 (United States Census), 88,926
Population of the city, 1912 (Assessors' Estimate), 96,973

SCHOOL CENSUS.

Number of children in Springfield between five and sixteen years of age, Sept. 1, 1912, 15,915

Distributed as follows:—

Ages.	5 yrs.	6 yrs.	7 yrs.	8 yrs.	9 yrs.	10 yrs.	11 yrs.	12 yrs.	13 yrs.	14 yrs.	15 yrs.	Totals.	
Ward I M	172	156	162	142	158	165	178	165	167	156	147	1768	
Ward I F	169	144	178	171	163	166	151	166	155	145	155	1763	
Totals.	341	300	340	313	321	331	324	331	322	301	302		3526
Ward II M	87	75	95	87	91	98	78	89	87	72	70	924	
Ward II F	95	97	93	91	104	94	81	101	78	67	63	964	
Totals.	182	172	188	178	195	187	159	190	165	139	133		1888
Ward III M	21	25	25	26	35	29	22	28	27	19	17	274	
Ward III F	17	23	24	27	35	19	24	18	32	29	24	272	
Totals.	38	48	49	53	70	48	46	46	59	48	41		546
Ward IV M	42	45	40	45	45	53	43	47	50	54	49	513	
Ward IV F	61	44	49	47	38	54	42	47	48	41	45	516	
Totals.	103	89	89	92	83	107	85	94	98	95	94		1029
Ward V M	70	65	42	57	52	33	52	52	61	32	56	572	
Ward V F	64	50	66	59	48	59	47	53	60	65	87	658	
Totals.	134	115	108	116	100	92	99	105	121	97	143		1230
Ward VI M	74	71	79	65	59	57	69	72	58	59	60	723	
Ward VI F	97	69	80	76	78	69	69	71	81	62	65	817	
Totals.	171	140	159	141	137	126	138	143	139	121	125		1540
Ward VII M	155	136	134	155	141	148	131	132	126	114	100	1472	
Ward VII F	146	138	151	130	142	132	110	127	114	120	90	1400	
Totals.	301	274	285	285	283	280	241	259	240	234	190		2872
Ward VIII M	154	175	146	171	145	165	134	121	144	129	142	1626	
Ward VIII F	177	151	161	158	137	130	163	168	148	157	108	1658	
Totals.	331	326	307	329	282	295	297	289	292	286	250		3284
Grand Totals.	1601	1464	1525	1507	1471	1466	1389	1457	1436	1321	1278		15915

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SCHOOL ATTENDANCE.

Ages.	5 yrs.	6 yrs.	7 yrs.	8 yrs.	9 yrs.	10 yrs.	11 yrs.	12 yrs.	13 yrs.	14 yrs.	15 yrs.	To-tals.
Public Schools.....	1181	1178	1233	1218	1185	1190	1176	1215	1233	869	781	12404
Parochial Schools.....	201	234	273	280	274	268	203	231	183	153	100	2400
Private Schools.....	8	7	7	5	3	7	5	8	10	14	21	95
At Home.....	211	50	12	4	9	1	5	3	10	86	71	412
At Work.....									M	127	218	345
									F	122	137	259
Totals	1601	1464	1525	1507	1471	1466	1389	1457	1436	1321	1278	15915

Of the above number not attending school, 127 boys and 122 girls fourteen years of age, and 218 boys and 137 girls fifteen years of age, are at work.

Number of male illiterate minors over fourteen years of age, 253
Number of female illiterate minors over fourteen years of age, 134

Total, 387

Summary of school census for 1911 :—

Ages.	5 yrs.	6 yrs.	7 yrs.	8 yrs.	9 yrs.	10 yrs.	11 yrs.	12 yrs.	13 yrs.	14 yrs.	15 yrs.	Totals.
Public schools..	960	1181	1237	1140	1162	1119	1169	1151	1153	945	677	11914
Parochial schools..	157	230	243	273	255	221	235	243	188	121	68	2234
Private schools..	7	9	7	3	4	5	8	8	11	15	24	101
At Home....	177	60	16	8	8	6	3	3	9	44	59	393
At Work.....										213	366	579
Grand Totals	1321	1480	1503	1424	1429	1351	1415	1405	1361	1338	1194	15221

THE ENUMERATION COMPARED BY WARDS.

Wards.	1908	1909	1910	1911	1912
I	2741	2935	3204	3324	3526
II	2064	2072	1886	1852	1888
III	603	597	597	563	546
IV	924	978	968	1012	1029
V	1230	1190	1194	1194	1230
VI	1501	1508	1497	1528	1540
VII	2261	2275	2520	2631	2872
VIII	2747	2780	2793	3097	3284
	14091	14335	14659	15221	15915

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SCHOOL ENROLLMENT AND ATTENDANCE.

(For the school year ending June 28, 1912.)

SCHOOLS.	Whole Number Enrolled.	Average Number Belonging.	Average Number Attending.	Per cent. of Attendance.
High,	1,893	1,806.7	1,717.7	95.0
Grammar and Primary,	13,057	11,247.7	10,428.7	92.7
Kindergartens,	1,634	792.6	639.5	80.6
All day schools,	16,584	13,847.0	12,785.9	92.3
Evening High,	952	510.5	381.5	74.7
Evening Grammar and Primary,	1,376	831.2	633.5	76.2
Evening Trade Classes,	549	379.0	303.1	80.0
All evening schools,	2,877	1,720.7	1,318.1	76.6

For detailed report of enrollment and attendance, see page 142.

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CENTRAL HIGH SCHOOL.

DISTRIBUTION OF PUPILS BY AGES AND CLASSES.

CLASS.	AGE.	11	12	13	14	15	16	17	18	19	20	21	22	23	Totals.	
Post-Graduate.	Boys.						1	1	1	1	1				5	
	Girls.							2	2	1					5	10
Senior A.....	Boys.						2	3	4	1	2				12	
	Girls.						1	6	8	5		1			21	33
Senior B.....	Boys.						4	7	3	2	3	1	1		21	
	Girls.					2	5	17	23	5	2				54	75
Junior A.....	Boys.					1	3	6	7	1		1			19	
	Girls.					2	4	9	11	2	1				29	48
Junior B.....	Boys.				1	6	13	9	7		1				37	
	Girls.				5	7	34	24	6	3	1				80	117
Sophomore A..	Boys.				1	3	11	7	4		1				27	
	Girls.				4	7	9	9	4						33	60
Sophomore B..	Boys.			1	8	21	19	11	7			1			68	
	Girls.			1	12	30	19	6	3						71	139
Freshman A...	Boys.			1	3	12	9	6							31	
	Girls.			1	9	14	9	4							37	68
Freshman B...	Boys.	2		8	21	28	8	1	1					1	70	
	Girls.		1	12	29	24	15	3	3						87	157
Totals,		2	1	24	93	157	166	131	94	21	12	4	1	1		707

AVERAGE AGES.

CLASS.		Average Age.	Oldest.	Youngest.	Av. Age of Class.
Post-Graduate.....	Boys.	18-0	20-5	16-5	17-9
	Girls.	17-8	18-11	17-2	
Senior A.....	Boys.	17-8	20-2	16-5	17-9
	Girls.	18-0	21-5	16-10	
Senior B.....	Boys.	18-0	22-3	16-3	17-7
	Girls.	17-5	20-4	15-0	
Junior A.....	Boys.	17-4	21-0	15-10	17-3
	Girls.	17-3	20-8	15-3	
Junior B.....	Boys.	16-5	20-5	14-11	16-4
	Girls.	16-4	20-2	14-0	
Sophomore A.....	Boys.	16-5	20-4	14-10	16-2
	Girls.	16-0	18-7	14-3	
Sophomore B.....	Boys.	16-0	21-3	13-8	15-6
	Girls.	15-3	18-8	13-8	
Freshman A.....	Boys.	15-5	17-9	13-11	15-3
	Girls.	15-1	17-4	13-9	
Freshman B.....	Boys.	14-5	23-0	11-6	14-6
	Girls.	14-7	18-0	12-4	

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CENTRAL HIGH SCHOOL—Continued.

DISTRIBUTION OF PUPILS BY CLASSES AND COURSES.

CLASS.		College Preparatory.	General.	1st Year.	Totals.	
Post-Graduate.....	Boys.	5			5	
	Girls.	4	1		5	10
Senior A.....	Boys.	6	6		12	
	Girls.	9	12		21	33
Senior B.....	Boys.	14	7		21	
	Girls.	18	36		54	75
Junior A.....	Boys.	11	8		19	
	Girls.	10	19		29	48
Junior B.....	Boys.	29	8		37	
	Girls.	41	39		80	117
Sophomore A.....	Boys.	21	6		27	
	Girls.	13	20		33	60
Sophomore B..	Boys.	55	13		68	
	Girls.	46	25		71	139
Freshman A.....	Boys.			31	31	
	Girls.			37	37	68
Freshman B.....	Boys.			70	70	
	Girls.			87	87	157
Totals,		282	200	225		707

TECHNICAL HIGH SCHOOL.

DISTRIBUTION OF PUPILS BY AGES AND CLASSES.

CLASS.	AGE.	13	14	15	16	17	18	19	20	21	Totals.	
Post-Graduate.....	Boys.						3	2		1	2	
	Girls.										4	6
Senior A.....	Boys.					8	2		1		11	
	Girls.					1		2	1		4	15
Senior B....	Boys.				2	14	9	8	4		37	
	Girls.			1	1	6	4	3			15	52
Junior A.....	Boys.				4	10	7	5	2	1	29	
	Girls.						2	1	1		4	33
Junior B...	Boys.			10	22	22	12	7	2		75	
	Girls.		1	2	8	18	7	1			37	112
Sophomore A... ...	Boys.			11	14	18	7	2			52	
	Girls.		1	6	7	8	4				26	78
Sophomore B.....	Boys.		4	29	30	20	7			1	91	
	Girls.	1	6	22	12	9	2	2			54	145
Freshman A.....	Boys.	3	15	31	20	12	3				84	
	Girls.		6	14	16	5	1				42	126
Freshman B.....	Boys.	4	37	31	21	4	1				98	
	Girls.	7	25	19	7	4	1				63	161
Totals,		15	95	176	164	159	72	33	11	3		728

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TECHNICAL HIGH SCHOOL—Continued.

AVERAGE AGES.

CLASS.		Average Age.	Oldest.	Youngest.	Average Age of Class.
Post-Graduate.....	Boys.	19-6	19-8	19-3	
	Girls.	20-8	24-9	18-5	19-1
Senior A.....	Boys.	18-1	20-11	17-1	
	Girls.	19-8	20-0	17-6	18-8
Senior B.....	Boys.	18-5	20-9	16-11	
	Girls.	18-0	19-6	15-11	18-3
Junior A.....	Boys.	18-8	21-8	16-1	
	Girls.	19-0	20-0	18-4	17-8
Junior B.....	Boys.	17-4	20-11	15-1	
	Girls.	17-4	19-0	14-6	17-4
Sophomore A.....	Boys.	16-11	19-0	15-0	
	Girls.	16-9	18-8	14-11	16-10
Sophomore B.....	Boys.	16-6	22-7	14-1	
	Girls.	16-2	19-2	13-6	16-4
Freshman A.....	Boys.	15-10	18-2	13-7	
	Girls.	16-0	18-1	14-0	15-11
Freshman B.....	Boys.	15-8	18-9	13-10	
	Girls.	15-2	17-8	13-1	15-8

DISTRIBUTION BY CLASSES AND COURSES.

CLASS.		Technical.	College Preparatory.	Normal.	Totals.
Post-Graduate...	Boys.		2		2
	Girls.	4			4
Senior A.....	Boys.	4	7		11
	Girls.	4			4
Senior B.....	Boys.	20	17		37
	Girls.	10	3	2	15
Junior A.....	Boys.	19	10		29
	Girls.	4			4
Junior B.....	Boys.	35	40		75
	Girls.	13	11	13	37
Sophomore A...	Boys.	31	21		52
	Girls.	9	7	10	26
Sophomore B...	Boys.	60	31		91
	Girls.	20	11	23	54
Freshman A.....	Boys.	56	28		84
	Girls.	23	12	7	42
Freshman B.....	Boys.	64	34		98
	Girls.	35	15	13	63
Totals,	Boys.	289	190		728
	Girls.	122	59	68	

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HIGH SCHOOL OF COMMERCE

DISTRIBUTION OF PUPILS BY AGES AND CLASSES.

CLASS.	AGE.	12	13	14	15	16	17	18	19	20	21	30	Totals.	
Post-Graduate	Boys.												0	
	Girls.							3	1			1	5	5
Senior A	Boys.						2	2	3				7	
	Girls.						1	4	4		1		10	17
Senior B	Boys.				1	1	1	2	3				8	
	Girls.				1	4	13	16	3	1			38	46
Junior A	Boys.					2	4	1	2				9	
	Girls.				1	3	12	1	1				18	27
Junior B	Boys.			1		7	4	4					16	
	Girls.			1	5	17	21	8					52	68
Sophomore A	Boys.				1	3	4	1					9	
	Girls.			1	6	10	8	4					29	38
Sophomore B	Boys.				11	6	2						19	
	Girls.		2	3	21	20	9	1	1				57	76
Freshman A	Boys.		5	3	7	8	2	2					27	
	Girls.		2	5	26	18	8	1					60	87
Freshman B	Boys.	1	3	5	13	6	2	1					31	
	Girls.		8	17	28	16	2						66	97
Totals		1	20	36	116	121	95	51	18	1	1	1	126	
													335	461

AVERAGE AGES.

CLASS.		Average Age.	Oldest.	Youngest.	Average Age of Class.
Post-Graduate	Boys.				
	Girls.	21-2	30-4	18-2	21-2
Senior A	Boys.	18-2	19-7	17-4	
	Girls.	18-7	21-9	17-10	18-6
Senior B	Boys.	17-8	19-10	15-7	
	Girls.	17-6	20-1	15-9	17-6
Junior A	Boys.	17-4	19-9	16-8	
	Girls.	16-11	19-11	15-7	17-0
Junior B	Boys.	16-8	18-0	14-5	
	Girls.	16-7	18-1	14-11	16-7
Sophomore A	Boys.	16-7	18-5	15-8	
	Girls.	16-8	18-0	14-2	16-4
Sophomore B	Boys.	15-6	17-8	15-2	
	Girls.	15-8	19-2	13-8	15-7
Freshman A	Boys.	15-2	18-3	13-3	
	Girls.	15-6	18-2	13-11	15-5
Freshman B	Boys.	14-11	18-5	12-1	
	Girls.	14-9	17-4	13-2	14-10

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Number of pupils admitted to high school grade in 1912, upon recommendations of principals of city grammar schools and Miss Mary L. Poland, Superintendent of Schools of Hampden, Longmeadow, and East Longmeadow :—

	FEBRUARY	JUNE	TOTAL
Buckingham,	26	34	60
Central Street,	38	37	75
Chestnut Street,	94	126	220
Forest Park,	57	81	138
Indian Orchard,	1	20	21
Sixteen Acres,	0	1	1
State Street,	44	65	109
Miss Poland,	12	26	38
Total,	272	390	662
Number entering Central High School,	51	115	166
Number entering High School of Commerce,	81	91	172
Number entering Technical High School,	105	136	241
Total,	237	342	579
Number of pupils examined and admitted to Central High School :—			
From city grammar schools,	0	8	8
From schools outside the city (new residents and non-residents),	1	11	12
From private and parochial schools,	0	1	1
	1	20	21
Number of pupils examined and admitted to High School of Commerce :—			
From city grammar schools,	0	2	2
From schools outside the city (new residents and non-residents),	5	4	9
From private and parochial schools,	0	1	1
	5	7	12
Number of pupils examined and admitted to Technical High School :—			
From city grammar schools,	2	9	11
From schools outside the city (new residents and non-residents),	3	7	10
From private and parochial schools,	0	0	0
	5	16	21

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Whole number of pupils finishing the grammar school course (including those passing the examinations),	716
Of these, the number entering :—	
Central High School,	187
High School of Commerce,	184
Technical High School,	262
	633

	FEBRUARY	JUNE	TOTAL
Number of pupils graduated from Central High School :—			
From the College Preparatory course,	1	36	37
From the General course,	16	65	81
	17	101	118
Number of pupils graduated from High School of Commerce,	16	53	69
Number of pupils graduated from Technical High School :—			
From the College Preparatory course,	9	20	29
From the General Scientific course,	1	22	23
	10	42	52
Total number of pupils graduating from the high schools,	43	196	239

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DISTRIBUTION OF PUPILS BY AGES AND GRADES IN SEPTEMBER, 1912.

AGES.	I.	II.	III.	IV.	Gram Prep.	V.	VI.	VII.	VIII.	IX.	Vocational.	Totals.
Under 5 yrs.	16											16
5 years....	437											437
6 "	937	225	3									1,165
7 "	410	568	204	10	1							1,213
8 "	114	394	565	176	5	16	2					1,272
9 "	31	124	382	419	12	190	16					1,174
10 "	11	36	202	365	14	440	188	21				1,277
11 "	7	19	89	148	20	334	376	179	23	1		1,166
12 "	2	6	30	90	24	203	341	337	168	24		1,225
13 "	1	3	9	67	20	114	170	313	352	157		1,206
14 "	1	1	10	23	21	47	77	146	250	295	17	888
15 "			1	13	20	7	16	34	117	227	24	459
16 "	1	1			8		3	5	32	74	17	141
17 "					1	1			5	26	3	36
18 "									2	4	2	8
Over 18 yrs.												
Totals.....	1,968	1,397	1,465	1,311	146	1,352	1,189	1,035	949	808	63	11,683

DISTRIBUTION OF PUPILS BY GRADES IN SEPTEMBER, 1912.

GRADES.	I.	II.	III.	IV.	Gram Prep.	V.	VI.	VII.	VIII.	IX.	Vocational.	Totals.
Acushnet Av.	131	79	62	79	20	59						430
Alden St.....	46	40	37	16								139
Armory St...	116	100	80	85	17	84	84	72	31			669
Barrows.....						101	125	97				323
Boston Rd....	21	10	12	10		16	14	6				89
Brightwood..	76	35	74	43								228
Buckingham.							68	135	151	138		512
Carew St.....	124	90	92	98		93	38					535
Central St....	40	42	45	41		74	83	68	80	71		544
Charles St....	71	29	32									132
Chestnut St..						122	222	235	264	291		1,134
Dry Bridge...	5	1	1	6		6						19
Eastern Av...	64	36	48	34		38						222
E. Union St...	84	37	69	36	17							243
Five Mile Pd.	9	3		7		4						23
Forest Park..							139	153	164	145		601
Glenwood.....	15	10	14	11								50
Homer St	87	70	63	53		76						349
Hooker.....	109	82	75	78	23	100						467
Howard St....	34	40	26	66	18	92	94	94				464
I. O. Prim....	42	34	21	31								128
I. O. Gram...	66	49	53	37		56	47	42	38	13		401
Jefferson Av..	57	92	58	89								356
Kens'ton Av..	107	68	86	76	19	86						442
Lincoln.....	80	61	67	52		109	98	70				537
Open-Air.....	2	3	6	6		6	3	1	4			31
School St.....	31	19	19	18		38	14					139
Sixt'n Acres..	11	5	4			4		6	1			31
State St.....								33	216	150		399
Strickland...	90	47	35	67								239
Sumner Av...	37	36	44	41		33						191
Tapley.....	89	76	63	74		67	65					445
White St.....	87	75	79	68		52	32					393
William St...	143	67	98	38	13							359
Worth'ton St.	73	59	57	51	14	36	43	23				356
Vocational...											63	63
Totals.....	1,968	1,397	1,465	1,311	146	1,352	1,189	1,035	949	808	63	11,683

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AVERAGE AGE IN EACH GRADE IN SEPTEMBER, 1912.

SCHOOLS.	I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.
Acushnet Avenue	6-5	7-11	9-1	10-7	11-6				
Alden Street	5-11	7-1	8-3	9-7					
Armory Street	6-1	7-3	8-2	9-4	10-1	11-7	12-6	12-9	
Barrows					11-1	12-1	13-0		
Boston Road	5-11	7-3	8-10	8-7	10-6	12-9	12-0		
Brightwood	6-5	7-7	9-1	10-2					
Buckingham						11-6	12-5	13-3	14-1
Carew Street	6-3	7-6	8-10	10-4	11-2	11-8			
Central Street	6-4	7-5	8-6	9-7	10-11	11-11	12-7	13-4	14-4
Charles Street	6-9	7-8	8-9						
Chestnut Street					10-7	12-0	12-7	13-6	14-2
Dry Bridge	6-0	11-0	8-0	7-0	10-0				
Eastern Avenue	6-2	7-3	8-8	9-5	10-9				
East Union Street	6-4	7-8	9-5	10-3					
Five Mile Pond	5-8	7-0		10-3	11-0				
Forest Park						11-5	12-7	13-7	14-9
Glenwood	5-6	7-3	7-11	9-6					
Homer Street	6-0	6-11	8-2	9-2	10-3				
Hooker	6-9	7-11	9-3	10-11	11-5				
Howard Street	6-0	7-7	8-5	10-6	10-9	11-6	12-5		
Indian Orchard Primary	5-11	7-0	9-4	10-2					
Indian Orchard Grammar	6-2	7-8	8-8	10-6	11-6	11-11	12-10	13-8	14-3
Jefferson Avenue	5-11	7-1	8-4	9-3					
Kensington Avenue	6-0	6-11	8-0	9-3	10-5				
Lincoln	6-0	7-3	8-5	9-10	11-1	12-0	12-8		
School Street	5-8	6-9	8-3	8-8	10-5	11-1			
Sixteen Acres	6-9	7-2	9-0		11-0		12-5	13-6	
State Street							11-9	13-11	14-5
Strickland	6-1	7-2	8-6	9-0					
Sumner Avenue	6-1	6-11	8-0	8-9	9-11				
Tapley	5-10	7-7	8-3	9-7	10-3	11-4			
White Street	6-2	7-9	8-9	9-6	10-10	11-6			
William Street	6-3	8-0	9-5	10-3					
Worthington Street	6-7	8-7	9-6	10-4	11-9	12-3	12-10		
Average	6-1	7-6	8-7	9-7	10-9	11-9	12-6	13-4	14-4

TEACHERS IN THE PUBLIC SCHOOLS, JANUARY, 1913.

DAY SCHOOLS.	MEN.	WOMEN.	TOTAL.
High Schools,	37	61	98
Grammar Grades,	9	210	219
Primary Grades,		124	124
Vocational,	5		5
Special Schools,		9	9
Ungraded Schools,		4	4
Kindergartens,		39	39
Special Teachers,	8	21	29
General Substitutes,		2	2
Total in Day Schools,	59	470	529
EVENING SCHOOLS.			
High,	13	14	27
Elementary,	11	45	56
Trades,	17	7	24
Total in Evening Schools,	41	66	107

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STATISTICAL TABLE

For the School Year Ending June 28, 1912.

(The registered number is the whole number of pupils in the school during any portion of the year, including transfers on account of changes in residences, etc.)

SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Central High,		William C. Hill, Prin., Grace L. Bell, Fannie E. Bickley, Mrs. Ida A. Burleigh, Maud V. Cole, Bertha T. Davis, Sally F. Dawes, Hazel Donham, Marion E. Dunbar, Clarence M. Hall, Helen M. Hall, Amy R. Hill, Ethel L. Keith, Howard C. Kelly, Frances H. Kingsley, Allen H. Knapp, Jessie M. Law, Georgia E. Lyon, Elizabeth S. Magay, Walter V. McDuffee, Florence Messer, Marion C. Murphy, Ira L. Nickerson, Amber L. Parlin, Helene M. Pope, Mary L. Regal, Emily C. Robbins, Ella M. Robinson, Emilie de Rochemont, Waterman S. C. Russell, Elizabeth A. Souther, Annie L. Swasey, Frances E. Thompson, Julius Tuckerman, Grace E. Urban, Angeline L. Weeks, Josephine A. White, Alice M. Wing, Ellen A. Winslow,		755	727.9	692.4	95.0
High School of Commerce,		Carlos B. Ellis, Prin., Grace Bigelow, Caroline Brown, Mrs. Louise M. Bullman, Bertha W. Burnham, Charles A. Campbell, Isabelle P. Coffin, Anna S. Danforth, Luella Delamarter, Edith A. Howland, Evered E. Kent, Will W. Macalpine, Robert L. Munson, Warren E. Potter, Rose E. Sherman, Julia W. Strong,		453	427.8	405.7	94.8

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
High School of Commerce, (*Continued*)		John A. Viele, Mildred F. Wheeler,					
Technical High,		Charles F. Warner, Prin., Clifford S. Bragdon, Vice-Prin., Burton A. Adams, J. Hawley Aiken, Bernice Allen, S. Augustine de Angelis, Robert L. Ashley, Lena C. Blake, Lillian A. Bolster, Jessie M. Bourn, Raymond J. Burby, Edwin A. Finch, Elizabeth E. Gammons, Harry W. Giffin, Edward H. Goodrich, M. Alma Grant, Ernest A. T. Hapgood, Fred J. Hart, Herbert F. Hartwell, Nellie B. Hill, Edward E. Holton, William N. Howard, Helen Knowlton, Mary A. Lewis, Alfred R. Lincoln, Lucy R. Mallary, August E. Metzdorf, Elizabeth Morton, Marie G. Mussaeus, Clarence E. Paddock, Lewis O. Richardson, Madge E. Richmond, Mary L. Sawyer, Esther M. Sears, E. Newton Smith, Grace T. Smith, Mrs. Lydia Smith, Kate Stanley, Mary A. Steer, Vivian H. Taber, Lucy Warner, Fred M. Watts, Mary A. Weaver,		685	651.0	619.6	95.2
Vocational,		Egbert E. MacNary, Prin., Jay Fisk, Edwin C. Knapp, Charles B. Rose, Clarence J. Sanborn, Daniel H. Shay,		84	70.7	65.7	92.9
Open-Air (Opened Dec. 11, 1911.)		Mary E. Loud, Prin., Hazel E. Bottume, Asst.,	II–VIII	3	34.5	31.2	90.4

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Alden Street,	4	Elizabeth Wassum, Prin. (Sept. 5, 1911-March 4, 1912), Nellie A. Ryan, Prin. (March 4-June 28, 1912),	IV	39	34.9	33.0	94.5
	3	Elizabeth Frothingham,	III	36	34.5	31.5	91.3
	2	Rachel J. Phelps,	II	40	35.9	31.4	87.4
	1	Louise Clark,	I	47	39.4	36.3	92.1
Armory Street,		Henry E. DuBois, Prin.,					
	20	Mary V. Leary,	VII	31	28.4	26.7	94.0
	19	Sarah A. Parsells,	VII	38	35.7	34.0	95.2
	17	Helen L. Whitney (Room opened Jan. 29, 1912),	VII	1	40.4	35.5	87.8
	18	Hazel Messenger,	VI	40	40.0	37.7	94.2
	16	Florence M. Abbe,	VI	46	40.4	38.2	94.6
	13	Mattie J. Gillette,	V	38	40.1	37.2	92.7
	12	Jessie M. Lowe,	V	45	42.3	39.2	92.7
	11	Emily L. Parsons,	IV	45	43.3	40.2	92.8
	10	Ida M. Pettee,	IV	45	43.4	40.5	93.3
	9	Aggie L. Sulis,	III	47	43.2	40.7	94.2
	7	Irma A. Ketchum,	III	44	43.2	40.1	92.8
	6	Daisy P. Seymour,	II	43	39.1	36.0	92.1
	5	Mary A. Walker,	II	41	38.4	34.3	89.3
	3	Stella A. Smith,	I	48	37.1	33.2	89.5
	2	Catherine E. Maybury,	I	43	37.1	32.0	86.3
	1	Helen L. Tuck,	I	30	42.4	36.2	85.4
	14	Mary I. Kernan,	Gram. Prep.	24	21.7	20.0	92.2
Barrows,		Elmer W. Barstow, Prin.,					
	10	Fannie A. Fiske,	VII	30	33.0	31.6	95.8
	8	Julia P. Parnell,	VII	29	27.4	25.7	93.8
	7	Lulu E. Marks,	VII	31	31.6	29.2	92.4
	6	Mary H. McCarthy,	VI	39	34.9	32.4	92.8
	5	Mary F. Pomeroy,	VI	41	39.0	36.6	93.8
	1	Kathleen Crowley,	VI	42	38.4	36.2	94.3
	4	Ruth E. McIntire,	V	46	34.7	32.3	93.1
	3	Ella F. Crooker,	V	39	36.9	35.2	95.4
	2	Annie P. Gerald,	V	40	40.0	38.2	95.5
Belmont Ave.,		(Transferred to Sumner Avenue March 4, 1912)					
Boston Road,	4	E. Blanche Wakefield, Prin.,	VI, VII	23	16.5	15.3	92.7
	1	Marion L. Whitelaw (Room opened Oct. 30, 1911),	IV, V	0	22.5	20.5	91.1
	2	Shirley A. Root,	III–V	38	29.3	27.4	93.3
	3	Harriet E. Colburn,	I–III	60	36.9	32.5	88.0
Brightwood,	1	Allie G. Axtelle, Prin., Ina D. Babb, Asst.,	IV	42	34.4	32.4	94.1
	9	Mrs. Walter Muir (Sept. 5, 1911-Jan. 26, 1912), Sara R. O'Brien (Jan. 29-June 28, 1912),	III, IV	37	38.4	36.0	93.7
	8	Margaret G. Kirby,	III	40	35.2	32.7	92.8
	10	Mrs. Mabel W. Hull,	II	40	37.8	34.6	91.5
	7	Frances Campbell,	II	34	34.0	30.1	88.5
	2	Harriet M. Blaisdell,	I	79	46.3	41.3	89.1

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Buckingham,		Arthur P. Irving, Prin.,					
	12	Margaret P. Higgins,	IX	33	36.7	34.8	94.7
	11	Grace M. Reed,	IX	40	41.4	39.3	94.9
	10	Mary E. Bloomer,	VIII, IX	35	38.3	35.9	93.7
	9	F. Grace Burdick,	VIII	45	40.6	37.6	92.6
	8	Edith Green,	VIII	35	39.6	37.0	93.4
	7	Lena M. Brooks,	VIII	39	38.8	36.1	93.0
	6	Anna B. Fenton,	VII	39	37.5	34.9	93.1
	3	Edith P. Farnsworth,	VII	43	38.1	35.9	94.2
	2	Rose C. Smith,	VII, VIII	38	34.6	32.7	94.5
	1	Florence V. Miller,	VII	42	40.9	38.8	94.8
	5	Mary E. Graham,	VI	41	35.2	32.5	92.8
	4	Helen S. Doane,	VI	37	39.5	37.3	94.4
Carew Street,	13	Mary E. Daboll, Prin., Ethelyn J. Russell, Asst.,	V	41	39.5	37.5	94.9
	12	Lena M. Tewkesbury,	V, VI	41	37.8	35.6	94.1
	6	Grace E. Nichols,	V	40	40.3	37.7	93.5
	7	Ella J. Jones,	IV	41	39.6	37.6	94.9
	5	Fannie E. Gibbs,	IV	46	41.9	38.9	92.8
	2	Carrie E. Cobb,	III, IV	52	42.6	39.1	91.8
	4	Agnese C. Ludden,	III	46	37.9	34.5	91.0
	3	Fannie G. Kimball,	III	45	38.6	35.8	92.7
	14	Mary M. Quirk,	II	34	32.1	28.7	89.4
	11	Addie L. Hines,	II	51	39.6	36.1	91.1
	1	Edith Plummer,	I, II	36	33.2	30.1	90.7
	9	Georgietta Hooker,	I	64	34.0	30.1	88.5
	8	Georgia F. Marks,	I	44	35.5	30.3	85.4
	10	Frances E. Cheney,	Special	15	13.7	11.6	84.7
Central Street,		Arthur T. Talmadge, Prin.,					
	13	Susie E. Jewell,	IX	43	39.3	37.7	95.9
	12	Angie L. Purinton,	IX	41	39.7	38.1	95.9
	7	Elsa P. Bates,	VIII	45	42.1	40.9	97.3
	6	Margaret Cunningham,	VIII	41	41.6	39.8	95.6
	8	Rebecca L. Harding,	VII	44	36.6	34.9	95.3
	5	Monica L. Hall,	VII	51	43.9	42.4	96.6
	11	Mary A. Curtis,	VI	38	36.0	34.3	95.4
	9	Mabelle A. Wilson,	V, VI	44	39.6	37.2	93.8
	10	Minnie A. Brosnan,	V	50	44.0	41.8	95.0
	4	Clara A. Farrell,	IV	55	45.1	41.7	92.5
	3	Mary I. Putnam,	III	44	38.8	35.3	90.9
	2	Lida E. Noyes,	II	44	39.9	36.1	90.5
	1	Anne L. Kemp,	I	56	41.8	36.1	86.3
Charles Street,	4	Mrs. M. Alice Williams, Prin.,	III, IV	35	30.5	29.0	95.0
	3	Emma M. Blodgett,	II, III	29	37.8	35.0	92.6
	2	Edith L. Wood,	I, II	33	34.7	32.4	93.3
	1	Mary F. Healy,	I	69	39.5	37.1	93.9
Chestnut St.,		Albert Candlin, Prin.,					
	10	Bird M. Albee,	IX	36	34.9	32.6	93.4
	9	Ida A. Ross,	IX	31	30.8	29.6	95.9
	8	M. Louise Strong,	IX	34	35.3	33.9	96.0
	7	Jennie M. Roberts,	IX	38	37.1	34.2	92.2
	6	Grace A. Puffer,	IX	36	34.7	32.6	94.0
	5	Sara E. Chase,	IX	33	32.0	30.5	95.2
	4	Marion R. White,	IX	40	33.8	32.4	95.9
	3	Christine A. Lund,	IX	35	33.8	31.7	93.8

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Chestnut St., (*Continued*)	19	Hazel E. Bottume (Sept. 5–Dec. 8, 1911), Lilla G. Richmond (Dec. 8, 1911-Jan. 26, 1912), (Room closed Jan. 26, 1912),	VIII	42	37.1	34.8	93.9
	18	Adelaide S. Hallen (Room closed Jan. 26, 1912),	VIII	37	34.4	32.8	95.3
	15	Jean M. Ashton,	VIII	38	33.5	31.2	93.1
	14	Charlotte L. Baird,	VIII	34	34.6	32.4	93.7
	13	Jennie E. Cooley,	VIII	32	31.7	30.1	94.9
	12	Ethel R. Coleman,	VIII	34	36.6	34.4	93.9
	11	Martha R. Devine,	VIII	36	35.3	33.1	93.7
	2	Anna E. Powers,	VIII	41	38.9	37.1	95.4
	1	Helen A. Buck,	VIII	41	37.8	36.0	95.2
	30	Sarah E. Burrall,	VII, VIII	41	38.6	35.8	92.6
	31	Nellie J. Campbell,	VII	42	35.2	33.0	93.8
	29	Ada B. Judson,	VII	41	36.4	34.2	94.0
	28	Hazel E. Rugen,	VII	39	35.0	32.6	93.1
	27	Elsie E. Willard,	VII	42	37.9	36.0	94.8
	17	Mary B. Morse,	VII	43	35.3	31.0	87.8
	16	Louisa J. Dakin,	VI, VII	41	32.2	30.1	93.5
	23	Kathryn H. Cunningham,	VI, VII	37	32.7	31.1	95.1
	32	M. Bertha Holmes,	VI	42	40.5	38.2	94.3
	26	Katherine A. Waldron,	VI	42	39.9	38.0	95.2
	25	Bessie M. Bailey,	VI	46	40.2	37.4	93.0
	22	Lillian E. Abbott,	VI	36	35.2	33.1	93.9
	20	Elsie M. Crosier (Sept. 5, 1911-Jan. 26, 1912),	VI				
		Mary E. McPhee (Jan. 29-June 28, 1912),	V	35	32.0	31.0	96.7
	24	Mary G. Walsh,	V, VI	46	40.4	38.4	95.0
	21	Anna L. Boeker,	V	42	36.5	34.6	94.9
		Ella J. Ross,	Drawing				
		Katherine A. Lane,	Music				
Dry Bridge,		Mary L. Gibbons,	I–V	22	19.7	17.9	90.8
Eastern Ave.,	6	Georgia A. Hodskins, Prin., Eunice C. Hibbard, Asst.,	V	45	40.1	38.2	95.3
	5	Celia M. Wood,	IV, V	42	36.3	34.5	95.0
	4	Margaret A. O'Brien,	III	33	32.4	30.5	94.1
	3	Ellen Wilkinson,	II	42	35.0	32.9	94.0
	2	M. Helen Newton,	II	33	33.6	31.4	93.4
	1	Lillian M. Bartlett,	I	49	29.9	26.1	87.3
East Union Street,	8	Laura L. Boice, Prin., Jessie Dexter, Asst. (Sept. 5, 1911-Jan. 26, 1912), Evelyn J. Wright, Asst. (March 4-June 28, 1912),	IV	41	37.2	34.6	93.0
	5	Mary Clement,	III	35	32.3	30.2	93.5
	3	Adella F. Whitworth,	II, III	44	35.3	33.0	93.5
	2	Ella L. Whitlock,	II	46	37.5	34.0	90.6
	7	Nellie M. Peck,	I	46	38.1	34.1	89.5
	1	Bess W. Owen	I	51	41.4	35.1	84.7
	6	Jennie S. Perry,	Gram. Prep.	19	17.8	16.8	94.3
Five Mile Pond,		Marion L. Whitelaw (School closed Oct. 27, 1911),	I–V	15			

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Forest Park,		George E. Foss, Prin.,					
	8	Louise S. Steinway,	IX	44	35.1	33.6	95.7
	4	Annie M. Whelan,	IX	30	27.4	26.1	95.2
	3	Ethel G. Westcott,	IX	34	30.2	28.6	94.7
	2	Robenia F. Anthony,	IX	42	35.2	32.5	92.3
	1	Bernice W. Dearborn,	VIII, IX	31	34.6	32.7	94.5
	18	Anna S. Bowen,	VIII	43	36.3	34.3	94.2
	17	Lina M. Greenlaw,	VIII	46	37.9	35.3	93.1
	9	Sara A. Hillman (Sept. 5-Dec. 8, 1911), Jeanette H. Baldwin (Jan. 29-June 28, 1912),	VIII	31	32.3	30.4	94.1
	16	Blanche M. Rexford,	VII	38	37.9	36.6	96.6
	15	Katherine E. Brosnan,	VII	46	43.7	41.6	95.2
	14	Martha A. Buzzell,	VII	49	42.7	39.7	93.0
	13	Mae L. Thomas,	VII	38	39.2	37.6	95.9
	12	Edith R. Cope,	VI	38	33.2	31.2	94.0
	11	H. Beatrice Bartlett,	VI	43	38.4	35.8	93.2
	10	Helena I. Duckworth,	VI	43	39.5	37.1	93.9
		I. Louise Mason,	Drawing				
Glenwood,	2	Mary E. Loud (Sept. 5-Dec. 8, 1911), Mrs. Anna B. Dougan (Dec. 11, 1911-June 28, 1912),	III–V	29	29.1	27.2	93.8
	1	Ruth Clark,	I, II	22	19.3	17.7	91.6
Homer Street,	8	Ellen T. Sullivan, Prin., Azilee H. Bottume, Asst. (Sept. 5, 1911-Jan. 26, 1912),	V	38	35.7	34.0	95.2
	7	Nellie L. Warner,	V	43	39.0	36.0	93.0
	5	Mary L. Ryan,	IV	45	42.9	39.6	92.3
	4	Alice M. Ketchum,	III, IV	49	42.2	39.0	92.4
	3	Lucretia J. Barber,	III	48	39.7	36.3	91.4
	6	Annie E. Smith,	II	43	40.0	34.9	87.2
	1	Gertrude Armington,	I, II	46	42.3	37.0	87.5
	2	Isabel E. McIntire,	I	84	46.6	39.0	83.7
Hooker,	12	Margaret C. Bickett, Prin., Frances C. MacCracken, Asst.,	VI	41	37.4	35.7	95.4
	11	Effie M. Wilcox,	V	42	35.9	34.2	95.3
	10	Evelyn M. Proctor,	IV	40	36.2	34.1	94.2
	9	Katherine Leonard,	IV	34	35.1	33.1	94.3
	8	Mrs. Anna F. Gammons,	IV	43	37.1	35.2	94.9
	7	Marguerite C. Buswell,	III	42	37.6	35.7	94.9
	6	Myra A. Pascoe,	III	42	34.5	32.7	94.5
	5	Harriet E. Brown,	II	52	36.5	34.6	94.8
	4	Lora A. Barnes,	II	56	34.7	32.5	93.6
	3	Helen M. Prouty (Sept. 5, 1911-Jan. 26, 1912), Mrs. Maud H. Lee (Jan. 29-June 28, 1912),	I	42	32.5	30.0	92.2
	2	Agnes B. Tyne,	I	35	33.4	30.4	91.0
	1	Ida J. Rich,	I	37	33.9	33.5	86.1
	13	Clara M. Bush,	Gram. Prep.	35	19.8	17.8	89.8
Howard Street,		John R. Fausey, Prin.,					
	3	Anna G. Carmody,	VII	40	35.6	33.4	94.0
	2	Ethel A. Ronaldson,	VII	44	36.8	34.8	94.3
	1	Edith M. Phelps,	VII	39	34.6	32.1	92.9

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SCHOOLS.	Rooms.	TEACHERS	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Howard Street, (*Continued*)	6	Nellie S. Batchelder,	VI	43	39.5	37.5	94.7
	5	Pearl A. Southmayd,	VI	46	37.7	35.4	93.8
	4	Elizabeth J. Steele,	VI	44	40.0	38.0	95.0
	8	Maude M. Cole,	V	39	40.0	37.0	92.5
	7	Elizabeth K. Woodworth,	V	49	40.2	37.8	94.0
	14	S. Christine Webster,	IV	43	41.5	38.7	93.2
	10	Florence M. Leary,	IV	41	41.5	39.1	94.2
	12	Helen E. Lewis,	III	40	35.0	32.7	93.4
	13	E. Cella Olmsted,	II	35	32.2	29.5	91.5
	16	Mary E. Bugbee,	I, II	30	29.9	26.9	89.9
	15	Susan S. Ranney,	I	65	34.4	30.2	87.7
	11	Fannie Hall,	Gram. Prep.	27	18.9	17.2	91.0
Myrtle Street, Indian Orchard,		Wellington Hodgkins, Prin.,					
	6	Etta Sinsabaugh,	VIII, IX	45	37.7	36.5	96.8
	7	Mary C. Welch,	VII	46	40.4	37.7	93.2
	5	Caroline S. Hartshorn,	VI	50	39.6	37.8	95.4
	9	Mary L. Wight,	V	39	30.0	28.8	96.0
	8	Fidelia M. Warriner,	V	38	30.8	29.3	95.1
	10	Susan I. Merrill,	IV	38	31.7	30.2	95.1
	4	Mary B. Sylvester,	III	38	34.7	33.1	95.3
	3	Harriet O. Rockwell,	II, III	43	37.2	34.4	92.4
	2	Theresa M. Gilday,	I, II	43	40.3	36.5	90.5
	1	Alice E. Childs,	I	67	42.7	38.3	89.6
East Main St., Indian Orchard,	6	Mrs. Harriet A. White, Prin.,	IV	48	33.7	31.8	94.3
	3	Mary E. Richardson,	II, III	51	39.2	36.3	92.6
	2	Lillian H. Nield (Sept. 5, 1911-Mar. 22, 1912), Ina B. Allen (March 25-June 28, 1912),	I	39	28.9	26.9	93.0
	1	Grace E. Lewis,	I	45	35.1	31.4	89.4
Jefferson Avenue,	9	Mary E. O'Neill, Prin., Agnes M. Cumming, Asst.,	IV	42	38.7	36.8	95.1
	6	Adah M. Judd,	IV	44	41.0	38.8	94.6
	5	Della B. Knappe,	III, IV	47	42.6	39.5	92.7
	4	Flora B. Dickinson,	III	48	41.8	39.0	93.3
	8	Marcia L. Palmer,	II	30	28.8	26.0	90.2
	7	Lillian M. Hapgood,	II	40	39.1	35.3	90.2
	3	Georgia Houston,	II	39	36.3	33.5	92.3
	2	Annie E. Roberts,	I	64	36.4	32.6	89.5
	1	Calista Roy,	I	51	35.0	30.7	87.7
Kensington Avenue,	7	Amie M. Billings, Prin., Olive A. Starkweather, Asst.,	V	43	40.0	37.6	94.0
	15	Alice M. Bowen,	V	36	33.4	31.0	92.8
	6	Ethel R. Babb,	IV	41	34.3	32.4	94.4
	5	Caroline B. Woods,	IV	37	36.0	34.0	94.4
	14	Ruby F. Bothum,	III, IV	29	28.2	26.3	93.2
	18	Olive A. Rainey,	III	32	31.3	27.9	89.3
	17	Emma L. Schrader,	III	39	35.5	32.5	91.5
	13	Emma E. Winslow,	III	26	32.0	29.6	92.5
	16	Mary A. Barnum,	II	34	33.5	30.3	90.4
	9	Eva H. Raymond,	II	34	35.9	34.1	95 0
	8	Helen M. Bates,	I	66	39.4	34.8	88.3
	4	Ethel C. Hilditch,	I	39	38.5	34.7	90.1

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Lincoln,		Anna L. Rice, Prin.,					
	8	Fern E. Devendorf,	VII	47	41.2	38.2	92.7
	7	Mary H. Garvey,	VII	43	42.0	40.0	95.2
	4	Florence E. Crosier,	VI	43	40.4	37.8	93.6
	3	Mabel L. Welcker,	VI	42	42.1	39.3	93.3
	12	Nora A. Donohue,	V	41	36.8	34.0	92.0
	11	Margarette J. Murphy,	V	43	38.0	35.2	92.6
	10	Mary E. Pelissier,	IV, V	45	39.8	37.1	93.2
	9	Effie E. Littlefield,	III, IV	52	40.5	37.8	93.3
	13	Mary C. Griggs,	III	45	40.5	37.7	93.0
	6	Mabel M. Sibley,	II, III	36	35.0	32.5	92.9
	5	Grace M. Parkinson,	II	40	37.6	35.4	94.4
	2	Queenie Tomlin,	I	52	32.7	29.2	89.2
	1	A. Genevieve Lord,	I	42	32.9	29.6	89.7
School Street,	4	Helen R. Davidson, Prin.,	V, VI	37	31.9	29.8	93.4
	3	Lucy T. Davies (Sept. 5-Dec. 22, 1911), Sara M. Thompson (March 4-June 28, 1912),	IV, V	41	34.8	32.8	94.1
	2	Sylvia Sylvester,	II, III	33	28.9	26.8	92.7
	1	Mary I. Fussell,	I, II	44	31.9	29.7	93.1
Sixteen Acres,	1	Mary E. Coburn,	VI–IX	14	17.0	16.5	97.0
	2	Inez Ingraham,	I–V	27	20.3	18.5	91.1
South Main St.,	12	Elizabeth A. Beggs, Prin., Mrs. Anna B. Dougan, Asst. (Sept. 5-Dec. 8, 1911), Sara A. Hillman, Asst. (Dec. 8, 1911-June 28, 1912),	V	38	36.4	34.1	93.7
	8	Helen C. Sharpe,	V	41	36.1	33.9	94.0
	9	Nellie A. Ryan (Sept. 5, 1911-March 4, 1912) Mrs. M. Etta Adams (March 4-June 28, 1912),	IV	45	37.8	35.5	93.9
	7	Elizabeth O. Stevens,	III, IV	47	39.6	36.8	92.9
	6	Alice A. Johnson,	III	45	40.5	37.3	92.1
	4	Anna E. Alderman,	II, III	46	39.8	37.1	93.2
	5	Mabel L. Bradford,	II	49	40.3	36.0	89.3
	1	Edith B. Robson,	I, II	45	40.9	36.5	89.2
	3	Clarinda C. Kibbe,	I	48	38.6	33.6	87.0
	2	Ella A. Maryott,	I	71	37.3	32.0	85.7
	10	Chloe St. John,	Gram. Prep.	25	19.7	18.3	92.8
State Street,		Harriet C. Emerson, Prin.,					
	7	Harriet P. McPherson,	IX	38	34.3	32.4	94.5
	6	Mary E. Richardson,	IX	49	40.3	38.0	94.2
	2	Laura M. Johnston,	IX	43	35.1	33.7	96.3
	1	A. Mabel Cobb,	IX	41	35.5	34.4	96.9
	15	Elizabeth H. Craig,	VIII	32	31.7	30.4	95.8
	14	Edith S. Roswell,	VIII	33	30.3	28.5	94.0
	13	Minnie C. Potter,	VIII	35	31.6	29.7	94.0
	10	Helen L. Whitney (Sept. 5, 1911-Jan. 26, 1912), Edith A. Bragdon (Jan. 29-June 28, 1912),	VIII	23	23.8	22.3	93.7
	9	Ethel G. Pemberton (Room opened Jan. 29, 1912)	VIII	0	36.4	34.9	96.0
	8	Josephine A. Lane,	VIII	30	30.1	28.5	94.7

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership	Average Attendance.	Per cent of Attendance.
State Street, (*Continued*)	5	Ethel G. Pemberton (Room closed Jan. 26, 1912),	VIII	25	22.6	20.9	92.4
	4	Edith A. Bragdon (Room closed Jan. 26, 1912),	VIII	21	22.2	21.3	96.0
	9	Rosalie W. Watson (Sept. 5, 1911-Jan. 26, 1912),	VII				
	4	Rosalie W. Watson (Jan. 29-June 28, 1912),	VII	39	27.5	25.7	93.8
		Jennie E. Livermore,	Drawing				
		H. Czarina Stacy,	Music				
Strickland,	6	Josephine C. Foster, Prin. (Sept. 5, 1911-Mar. 4, 1912),	IV				
		Elizabeth Wassum, Prin. (March 4-June 28, 1912),	IV	38	32.9	31.1	94.5
		Ruth H. Merriam, Asst.,					
	3	Fannie C. Pease,	IV	36	33.0	31.2	94.5
	5	Susan L. White,	III	40	38.1	36.3	95.2
	4	Kate L. Colton,	II	49	40.9	37.2	91.0
	2	Anna E. Wilcox,	I	47	33.9	30.6	90.2
	1	Helen S. Garrett,	I	71	38.8	33.2	85.6
Sumner Avenue (Transferred from Belmont Ave. School, Mar. 4, 1912)	3	Sara M. Thompson (At Belmont Ave. Sept. 5, 1911-March 4, 1912),					
		Josephine C. Foster, Prin. (March 4-June 28, 1912),	IV, V	44	39.8	36.0	90.4
	5	Grace F. Crockett,	III	44	37.7	34.5	91.5
	6	Sara M. Waters,	II	40	39.3	35.0	89.0
	1	Lillian G. Howe,	I	49	33.0	29.3	88.7
Tapley,	14	Addie McKechnie, Prin.,	VI	38	35.8	34.0	95.0
		Mrs. Ada M. Buchan, Asst.,					
	8	S. Mabel Prescott,	VI	42	36.4	34.0	93.4
	13	Edith A. Harvey,	V	37	34.8	31.8	91.3
	4	Maude M. Stoddard,	V	36	34.4	32.4	94.1
	12	Marie Mache,	IV	35	33.7	31.7	94.0
	7	Winifred M. Scott,	IV	43	34.8	32.0	91.9
	11	Rebecca C. Currier,	III	42	35.7	32.6	91.3
	3	Jennie C. Prentice,	II, III	34	34.8	31.0	89.0
	2	Gertrude Mullins,	II	44	40.4	36.2	89.6
	1	Gail Kingsley,	II	43	38.0	32.8	86.3
	10	Ida E. Toole,	I	46	37.8	33.2	87.7
	9	Emily F. Ellis,	I	77	39.9	33.0	82.8
White Street,	2	Julia E. Steere, Prin.,	VI	34	31.6	30.2	95.5
		Helen P. Mahoney, Asst.,					
	7	Eva M. Sadd,	V	33	32.4	30.9	95.4
	8	Susan C. Pease,	IV, V	37	36.9	34.2	92.6
	10	Mabel A. Pease,	IV	43	39.6	37.2	93.9
	5	Wilhelmine Gutberlet,	III, IV	40	38.4	35.6	92.7
	9	Florence E. Randall,	III	38	36.9	34.3	92.9
	6	Alys M. Johnson,	II	40	38.8	31.1	92.0
	4	Elizabeth F. Bingham,	II	42	35.7	31.7	88.8
	3	Anna L. Gilmartin,	I	75	36.9	31.9	86.4
	1	Elizabeth A. Garfield,	I	38	35.8	32.5	90.8

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
William Street,	12	Louise F. Elwell, Prin., Margaret Hurley, Asst.,	IV	48	38.7	36.5	94.3
	11	Ellen E. Morrissey,	III	45	36.7	34.2	93.2
	8	Lillie M. Speer,	III	45	39.1	37.0	94.6
	6	Theresa A. Forg,	II	43	39.3	36.1	91.8
	4	Cora E. Chapin,	II	49	40.3	37.2	92.3
	7	Minnie J. Fitzgerald,	I, II	50	38.4	34.9	90.8
	10	Fannie A. Lewis,	I	47	37.2	34.2	91.9
	9	Bertha L. Davison,	I	59	35.9	32.8	91.3
	8	Florence B. Humpage,	I	60	35.1	29.1	82.8
	5	Bertha C. Miller,	Gram. Prep.	33	22.6	20.8	92.0
Worthington Street,		Frank W. Doane, Prin.,					
	11	Mildred Ketchum,	VII	28	26.4	25.2	95.5
	10	Lilla E. McLeod,	VI	36	30.5	28.9	94.8
	9	Carolyn M. Lewis,	V	32	28.1	26.5	94.3
	8	Florence G. Stevens,	V	30	29.5	27.4	92.9
	7	Minna Wilkinson,	IV	31	29.1	27.7	95.2
	6	Mary E. Donica,	III, IV	39	31.9	29.6	92.8
	5	Una L. Bangs,	III	39	35.4	34.0	96.0
	4	Gertrude Rand,	II	41	39.8	37.3	93.6
	3	Ruth M. French,	I, II	44	32.0	30.2	94.4
	2	Sarah C. Edgar,	I	46	39.1	37.0	94.6
	1	Mary E. Elland,	I	86	39.6	35.8	90.4
	12	Esther Macdonald (Room opened Jan. 15, 1912)	Gram. Prep.	11	18.8	17.5	93.1
		KINDERGARTENS.					
Armory Street,		Violette I. Loring (Sept. 5, 1911-May 6, 1912), Mrs. Edith M. Bentley, Irene Ritchie (May 6-June 28, 1912),		95	45.9	35.7	77.8
Brightwood,		Adelaide H. Robertson, Carrie W. Moses, Grace Goldberg,		125	58.9	45.4	77.0
Central Street,		Anna T. Shaw, Grace Campbell,		76	39.5	34.0	86.0
Eastern Ave.,		May L. Price, Elizabeth Bangs,		76	41.8	33.5	80.1
East Union St.,		Mrs. M. Louise Stock, Josephine L. Falvey,		76	35.7	28.1	78.7
Homer Street,		Lulu A. J. Allen, Lola J. Macartney,		81	41.9	32.8	78.2
Hooker,		Clara M. Lewis, Grace B. Hamman, Carolyn M. Moore,		164	66.5	51.9	78.0
Howard Street,		Anna R. Quilty, Rachel A. Jones,		83	46.2	35.8	77.4

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Myrtle Street, Indian Orchard,		Mary A. Bassett, Anna E. Nield,		76	38.2	35.0	91.6
East Main St., Indian Orchard,		Mary A. Bassett, Anna E. Nield,		108	67.1	63.4	94.5
Jefferson Ave.,		Ora L. Batcheider, Alice E. Allen,		105	52.7	40.9	77.6
Kensington Ave. (Opened May 6, 1912),		Violette I. Loring, Nella M. Stockwell,		24	47.6	39.4	82.7
South Main St.,		Mrs. Frances M. Page, Helen E. Childs,		120	57.1	42.9	75.1
Sumner Ave. (Transferred from Forest Park, May 6, 1912),		Grace H. Bowers, J. Selma Schniewind,		104	41.9	34.3	81.8
Tapley,		M. Josephine Barry, Ethel F. Graves,		90	43.2	33.3	77.1
White Street,		Alice E. Loynes, Helen C. Bailey,		92	43.1	34.2	79.3
William Street,		A. Archer Hunt, Louise Collins, Nella M. Stockwell,		139	63.4	50.5	79.6
		EVENING SCHOOLS.					
High,		Carlos B. Ellis, Prin., Mrs. Louise M. Bullman, Bertha W. Burnham, Harry A. Buzzell, Charles A. Campbell, Nellie J. Campbell, Margaret Cunningham, Anna S. Danforth, Clarence M. Hall, Georgia A. Hodskins, Evered E. Kent, W. Edward Lamb, Will W. Macalpine, Elizabeth S. Magay, Pauline C. Melius, Robert L. Munson, Paul H. Pitkin, Helene M. Pope, Annie L. Swasey, Harry A. Thomas, Mildred F. Wheeler,		822	440.9	334.5	75.8

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Preparatory Class,		Ethel A. Ronaldson, Bernice W. Dearborn, Mary C. Welch,		130	69.6	47.0	67.5
Chestnut St.,		Arthur T. Talmadge, Mrs. Amy U. W. Bagg, M. Josephine Barry, Elsa P. Bates, Mrs. Ethel C. Bliss, E. Ruth Cohen, Mrs. Kathleen Crowley, Martha R. Devine, Genevieve Dowling, Grace Goldberg, Jennie Hurwitz, Mrs. Anna L. Jackson, Katherine J. Keenan, Walter J. Kimble, Mrs. Walter J. Kimble, Alice E. Loynes, P. F. Mansfield, Annie E. Roberts, Elizabeth V. Sprague, Mrs. Harriet E. Todd,		611	356.1	261.9	73.5
Howard Street,		John R. Fausey, Prin., Mrs. Ina B. Allen, Nellie S. Batchelder, Mrs. Elizabeth F. Bogart, Mrs. Clara M. Bush, Dwight Clark, Helen S. Doane, Theresa M. Gilday, Mary E. Graham, Agatha Healey, Mrs. P. M. Hemenway, A. Archer Hunt, Silvio Martinelli, Mrs. Sophia Michalopoulos, Mary T. Moriarty, Mrs. E. E. O'Gara, Helen I. Peck, Jennie S. Perry, Edith B. Robson, Arthur J. Sharadin,		513	320.5	242.9	75.7
Indian Orchard,		Mrs. Harriet A. White, Mrs. Louise H. Bliss, Elmer B. Clark, Abbie Ferris, Vivian Greenlaw, Roy J. Guyer, Mrs. Grace E. Hawkins, Mrs. Jean R. Irwin, Blanche Johnson, Madeline Keating, Mrs. Martha J. Luce, Lillian H. Nield, Lillian M. Reavey, Maria L. Taylor,		252	154.6	128.7	83.2

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SCHOOLS.	Rooms.	TEACHERS.	GRADES.	Number Registered.	Average Membership.	Average Attendance.	Per cent of Attendance.
Evening Trades,		Charles F. Warner, Prin., Burton A. Adams, Robert L. Ashley, Harry W. Giffin,	Mech. Drwg.	172	110.7	79.9	72.2
		Clarence E. Paddock, Raymond J. Burby,	Math'mats	45	19.8	14.4	72.7
		Clarence E. Paddock, Edward E. Holton, Fred J. Hart, Charles H. Wilcox,	Mach. Shop.	128	95.9	85.6	89.2
		Edwin A. Finch,	Wood Work	21	15.7	12.9	82.2
		Frank W. Tower,	Plumbing	37	27.6	22.2	80.4
		Ernest G. Bates, Edward H. Goodrich, Wilbur A. Stannard,	Electricity	81	20.1	16.6	82.5
		Bernice Allen,	Cooking	8	6.4	5.1	79.7
		Olive Stowell, Mrs. J. E. Bush,	Dr'sm'k'g	57	48.6	41.5	85.4
		M. Alma Grant, Elizabeth Morton, Olive Stowell,					
		C. Edward Newell, Fred M. Watts,	Arts	15	12.5	9.6	76.8
		C. Edward Newell, Mrs. L. E. Jordan,	Freehand Drawing.	40	21.7	15.3	70.5

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SUMMARY OF STATISTICS

For the School Year Ending June 28, 1912.

SCHOOLS.	No. of Schoolrooms.	No. of Teachers.	No. of Pupils Registered.	Average No. Belonging.	Av. No. Pupils to a Room.	Av. No. Pupils to Teacher.	Av. Daily Attendance.	Per cent of Attendance.	Half Days of Truancy.	Corporal Punishments.
Central High	16	39	*755	727.9	45.4	18.7	692.4	95.0	0	0
H. S. of Commerce	12	18	*458	427.8	35.6	23.8	405.7	94.8	0	0
Technical High	17	43	*685	651.0	38.2	15.1	619.6	95.2	0	0
Vocational	1	6	84	70.7	70.7	11.8	65.7	92.9	67	0
Open-Air	1	2	3	34.5	34.5	17.3	31.2	90.4	14	1
Alden Street	4	4	162	144.7	36.2	36.2	132.2	91.5	14	24
Armory Street	17	18	694	686.0	37.4	35.4	584.0	91.8	24	60
Barrows	9	10	337	315.9	35.1	31.6	297.4	94.1	10	1
Boston Road	4	4	121	105.2	26.3	26.3	95.7	90.9	4	3
Brightwood	6	7	272	226.1	37.7	32.3	207.1	91.5	25	32
Buckingham	12	13	467	461.2	38.4	35.5	432.8	93.8	6	3
Carew Street	14	15	596	506.3	36.2	33.8	463.6	91.5	79	7
Central Street	13	14	596	528.4	40.6	37.8	496.3	93.9	30	5
Charles Street	4	4	166	142.5	37.4	37.4	133.5	93.6	5	14
Chestnut Street	31	34	1,233	1,104.6	35.6	32.5	1,040.1	94.1	74	35
Dry Bridge	1	1	22	19.7	19.7	19.7	17.9	90.8	4	0
Eastern Avenue	6	7	244	207.3	34.6	29.6	193.6	93.3	13	25
East Union Street	7	8	232	239.6	34.2	30.0	217.8	90.9	17	13
Five Mile Pond			15							
Forest Park	15	17	601	543.6	36.2	32.0	513.1	94.3	23	4
Glenwood	2	2	51	48.4	24.2	24.2	44.9	92.8	0	1
Homer Street	8	9	396	328.4	41.1	36.4	295.8	90.0	10	13
Hooker	13	14	591	449.6	34.6	32.1	419.5	93.3	61	33
Howard Street	15	16	625	537.8	35.9	33.6	500.3	93.0	79	26
I. O. Grammar	10	11	447	365.1	36.5	33.2	342.6	93.8	51	7
I. O. Primary	4	4	133	136.9	34.2	34.2	126.4	92.3	3	31
Jefferson Avenue	9	10	405	339.7	37.7	34.0	312.2	91.9	19	18
Kensington Avenue	12	13	456	418.0	34.8	32.2	385.2	92.1	49	14
Lincoln	13	14	571	499.5	38.4	35.7	463.8	92.8	35	38
School Street	4	4	155	127.5	31.9	31.9	119.1	93.4	0	0
Sixteen Acres	2	2	41	37.3	18.7	18.7	35.0	93.8	0	7
South Main Street	11	12	500	407.0	37.0	33.9	371.1	91.1	20	17
State Street	12	15	409	360.8	30.1	24.1	342.2	94.8	23	2
Strickland	6	7	231	217.6	36.3	31.1	199.6	91.7	6	14
Sumner Avenue	4	4	177	149.8	37.5	37.5	134.8	89.9	0	0
Tapley	12	13	517	436.5	36.4	33.4	394.7	90.4	3	21
White Street	10	11	420	358.0	35.8	32.5	329.6	92.0	20	30
William Street	10	11	474	363.3	36.3	33.0	332.8	91.6	69	29
Worthington Street	12	13	463	380.2	31.7	29.2	357.1	93.9	25	18
Total	359	449	14,950	13,054.4	36.3	29.0	12,146.4	93.0	892	546
Kindergartens	17	35	1,634	792.6			689.5	80.6		
All Day Schools	376	484	16,584	13,847.0			12,785.9	92.3		
Evening Schools		101	2,377	1,720.7			1,818.1	76.6		

*There were 76 pupils enrolled in Central High School, 94 in High School of Commerce, and 106 in Technical High School, who had previously been enrolled in the grammar schools, thus making the total number of different pupils during the year attending

Central High,	881
High School of Commerce,	547
Technical High School,	791
Total,	2,169

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ANNUAL REPORT OF

TRUANT OFFICER.

To the School Board:—

I have the honor herewith to present to you the report of the Truant Officer for the current year:

Number of visits to stores and factories,	75
Number of children found illegally employed,	90
Number of visits to school buildings,	1,909
Number of cases reported from schools,	10,522
As follows: For absence, 9,324; truancy, 684; tardiness, 303; habitual absentees, 12; non-attendants, 11; school offenders, 2; evening school pupils, 186.	
Number of children found about the streets,	1,256
Upon investigation it was found that 787 were absentees; 162 were truants; 19 were tardy children; 102 were habitual absentees; 186 were non-attendants.	
Of the children found about the streets, 189 absentees, 21 truants, 6 habitual absentees, 58 non-attendants, 4 tardy children, were taken to their homes; and 70 absentees, 98 truants, 12 tardy children, 5 non-attendants, 2 habitual absentees, were taken to school.	
Number of visits made to homes,	13,645
Divided as follows: For absentees, 11,644; truants, 995; tardiness, 305; habitual absentees, 175; non-attendants, 323; school offenders, 6; evening school pupils, 197.	
Number of individual absentees,	4,351
Heads of families warned by letter that they would be prosecuted unless their children were sent to school regularly,	13
Heads of families prosecuted for neglecting to cause children under their control to attend school regularly,	22

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Number of children not attending any school, . . .	230
Of these 40 were reported from various sources; and 190 were discovered by the Attendance Officers. These cases have been disposed of as follows: 193 have entered school; 15 were sick and physician's certificates were received; 13 have left town; 4 were under age; 2 were deaf and dumb; 1 had gone to work; 2 were over age.	
Number of habitual absentees, ...	76
Number of habitual absentees prosecuted, ...	7
Number of habitual absentees committed to the Hampden County Training School, ...	3
Number of individual children whose names appeared on the Attendance Officers' record for the year, . . .	4,944

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TABULATED RECORD OF TRUANCY.

Schools.	Pupils Truant.	Truancies.	Days of Truancy.	Prosecuted as Habitual Truants.	Committed to the Training School.	Cases continued from day to day for Sentence.
Central High	4	10	20½			
High School of Commerce						
Technical High	14	21	32½			
Vocational	20	41	37			
Alden Street	1	3	5			
Armory Street	6	6	3			
Barrows	11	14	9½			
Boston Road	3	3	1½			
Brightwood	16	28	22½	1	1	
Buckingham	7	8	6			
Carew Street	30	41	25	1		1
Central Street	13	19	11			
Charles Street	3	4	2			
Chestnut Street	74	118	94	1	*	1
Dry Bridge						
Eastern Avenue	7	7	6			
East Union Street	13	15	13			
Forest Park	7	14	17			
Glenwood						
Homer Street	6	3	2			
Hooker	43	62	43½	1		1
Howard Street	53	75	53	1		1
Indian Orchard Grammar	12	24	25½			
Indian Orchard Primary	2	5	8½			
Jefferson Avenue	9	11	8½			
Kensington Avenue	5	19	21			
Lincoln	25	30	20			
Open Air	1	2	7			
School Street						
Sixteen Acres						
South Main Street	23	25	15½			
State Street	12	13	15½			
Strickland	4	5	3			
Sumner Avenue						
Tapley	3	3	1½	1		1
White Street	5	15	11			
William Street	41	63	45½			
Worthington Street	20	25	13			
Carew Special	6	9	9			
Private Schools	83	142	167	2		2
Between Schools	6	6	19			
Totals	588	889	794½	8	1	7

Thirteen were truant from two schools, leaving 575 children who were truant during the year.

* One boy, who was on parole from the Hampden County Training School, had his parole revoked and was returned.

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In connection with the above statistics, attention is called to the increase in the number of children apprehended on the streets. This number, however, includes only those children whose absences were investigated and not children who belonged out of town or who were out of school because their schools were closed for a visiting day or a holy day. There is also a large increase in the number of parents prosecuted for neglecting to cause their children to attend school regularly. For the most part they were heads of families that have required attention for years. In some cases the older children had grown up and left school without getting beyond the fourth grade. It seemed unwise to continue to give so much time to families of this sort without accomplishing any real good. After prosecution, in nearly every case, the children attended school as regularly as the average child, showing that the older children in these families had been needlessly robbed of an opportunity to secure a decent education. In some cases, where it seemed possible to improve matters without resorting to a prosecution, the parents came to our office for a conference regarding the attendance of their children and usually the attendance of the children was improved.

Our attention has not been confined to the normal child already in school, for there is a clause in the law which provides that parents of a child who is *not* a fit subject for instruction in the public schools, but who is a fit subject for instruction at the public charge in other institutions, must use every reasonable effort to have such child so instructed. Application was made for the admission of two deaf and dumb children to the Clarke School for the Deaf, Northampton, and they entered there this fall. In the same way, one epileptic child was sent to the State Hospital at Monson.

The enforcement of the law requiring newsboys to be licensed and to wear badges in plain sight has been a problem and has caused considerable extra work. The law is a good

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one and if enforced would be a benefit to the newsboys and to the public. If people buying newspapers would patronize only those boys who are wearing badges, it would help immensely in the observance of the law by the boys, with the consequence that the boys would get home at a proper time of night and that those boys who are inclined to be dishonest in making change or to beg by telling some story of woe, would be restrained, because the badge and number would serve as a means of identification as surely as the sign on a man's place of business. Every licensed newsboy is registered with the City Clerk or at the office of the Superintendent of Schools.

The Hampden County Training School (formerly called the Truant School) to which truants and habitual absentees from school are committed, not only from Springfield but also from the rest of Hampden County and from Berkshire County, is overcrowded most of the time. When it was built it was some distance from the city and answered its purpose well; but now that the city has built up close to it, it is too small and has not a proper equipment for up-to-date methods in the care and training of the boys who are sent there. These boys need even better training than the boys in our regular schools and are more in need of vocational training. As we are in a way responsible for the boys from Springfield who are in the Training School, we feel a particular concern that they shall have opportunities which it is impossible for the superintendent of the school to give them with the means now at his disposal. It is to be hoped that before long the County Commissioners will take up the matter of disposing of the present school and providing an adequate plant in more rural surroundings.

Respectfully submitted,

JOHN A. PARKER,

Truant Officer.

December 20, 1912.

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REPORT OF

SCHOOLHOUSE AGENT FOR 1912.

SPRINGFIELD, MASS., DECEMBER 14, 1912.

To His Honor, the Mayor, and City Council.

GENTLEMEN:—In compliance with the City Ordinances, I respectfully submit the annual report of the expenditures in detail for Schoolhouse Repairs, Schools City Property Committee, Municipal Heating Plant, Militia Rifle Range, and other expenditures of this department for the year ending November 30, 1912.

SCHOOLHOUSE REPAIRS.

Acushnet Avenue School:		
Basement entrance,	$99 01	
Boiler and steam repairs,	140 99	
Carpenter labor and material,	47 87	
Furniture, shades and mats,	45 14	
Painting and glazing,	63 85	
Plumbing repairs,	21 21	
Ordinary repairs,	52 32	
		$470 39
Alden Street School:		
Carpenter labor and material,	$25 39	
Furniture, shades and mats,	17 83	
Metal ceilings,	323 03	
Painting and glazing,	127 85	
Roof and valley repairs,	78 93	
Ordinary repairs,	23 24	
		596 27
Amount carried forward,		$1,066 66

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Amount brought forward, . . .		$1,066 66
Armory Street School:		
Bell and telephone repairs, ...	$30 07	
Blackboards, ...	24 60	
Boiler, steam and ventilation repairs, . .	885 82	
Carpenter labor and material, . . .	123 44	
Furniture, shades and mats, . . .	288 44	
Mason work and material, ...	32 30	
Painting, glazing and kalsomining, . .	243 05	
Plumbing repairs, ...	98 94	
Ordinary repairs, ...	28 06	
		1,754 72
Barrows School:		
Blackboards, ...	$21 13	
Carpenter labor and material, . . .	58 59	
Furniture, shades and mats, ...	85 44	
Painting, glazing and kalsomining, . .	101 35	
Plumbing repairs, ...	20 24	
Roof and gutter repairs, ...	40 80	
Ordinary repairs, ...	69 81	
		397 36
Belmont Avenue School (unoccupied):		
Ordinary repairs, ...		23 97
Boston Road School:		
Blackboards, ...	$16 63	
Carpenter labor and material, . . .	33 67	
Furnace and steam repairs, ...	140 04	
Painting, glazing and kalsomining, . .	34 78	
Ordinary repairs, ...	36 10	
		261 22
Brightwood School:		
Bell and lighting repairs, ...	$15 83	
Carpenter labor and material, . . .	36 37	
Furniture and shades, ...	46 48	
Painting, glazing and kalsomining, . .	192 78	
Plumbing and heating repairs, . . .	43 40	
Roof repairs, ...	31 35	
Ordinary repairs, ...	7 16	
		373 37
Amount carried forward, ...		$3,877 30

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Amount brought forward, ...		$3,877 30
Buckingham School:		
Basement entrance, ...	$174 92	
Bells, telephones and lights, ...	233 93	
Carpenter labor and material, . . .	179 67	
Furniture, shades and mats, ...	282 23	
Heating and ventilation repairs, . . .	87 23	
Heating plant and new boiler (not completed), ...	4,428 63	
Metal ceilings, ...	298 82	
Painting, glazing and kalsomining, . .	476 50	
Removing old furnaces and making changes for new boiler room, ...	278 04	
Ordinary repairs, ...	31 50	
		6,471 47
Carew Street School:		
Bells and lights, ...	$23 32	
Carpenter labor and material, . . .	80 83	
Furnace and heating repairs, ...	89 60	
Furniture, shades and mats, ...	48 84	
Metal ceilings, ...	491 04	
Painting, glazing and kalsomining, . .	151 78	
Roof repairs, ...	84 40	
Ordinary repairs, ...	14 16	
		983 97
Carlisle School (unoccupied):		
Central Street School:		
Bells, telephones and lights, ...	$47 44	
Boiler, steam and ventilation repairs, . .	195 77	
Carpenter labor and material, . . .	62 76	
Furniture, shades and mats, ...	72 05	
Painting, glazing and kalsomining, . .	155 14	
Plumbing repairs, ...	77 88	
Repairs, tenement 374 Central Street, . .	66 26	
Roof and gutter repairs, ...	114 16	
Ordinary repairs, ...	15 89	
		807 35
Amount carried forward, . . .		$12,140 09

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Amount brought forward, . . .		$12,140 09
Charles Street School:		
Blackboards, ...	$63 56	
Boiler and steam repairs, ...	167 75	
Carpenter labor and material, . . .	49 61	
Flag pole, and roof repairs, ...	20 19	
Mason work, ...	25 10	
Painting, glazing and kalsomining, . .	32 22	
Plumbing repairs, ...	59 48	
Ordinary repairs, ...	26 12	
		444 03
Chestnut Street School:		
Bells, telephones and lights, ...	$101 78	
Blackboards, ...	45 66	
Boiler, steam and motor repairs, . . .	163 02	
Carpenter labor and material, . . .	255 37	
Furniture, shades and mats, ...	157 96	
Gutters, conductors and roof repairs, . .	186 01	
Kitchen, dining- and drawing-room finished, ...	2,032 17	
Painting, glazing and kalsomining, . .	221 01	
Plumbing repairs, ...	187 17	
Vacuum air system installed, . . .	1,160 87	
Ordinary repairs, ...	24 05	
		4,535 07
Dry Bridge School:		
Painting and preparing walls, . . .	$29 42	
Ordinary repairs, ...	19 89	
		49 31
Eastern Avenue School:		
Carpenter labor and material, . . .	$49 13	
Furnace and heating repairs, . . .	162 36	
Furniture, shades and mats, ...	19 12	
Painting, glazing and kalsomining, . .	203 53	
Roof repairs, ...	36 78	
Ordinary repairs, ...	22 33	
		493 25
Amount carried forward, ...		$17,661 75

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Amount brought forward,		$17,661 75
East Union Street School:		
Bell and light repairs,	$32 20	
Boiler and steam repairs,	32 21	
Carpenter labor and material,	75 03	
Furniture, shades and mats,	37 59	
Mason work,	27 18	
Painting, glazing and kalsomining,	153 43	
Roof repairs,	59 12	
Smoke stack repairs,	164 71	
Ordinary repairs,	12 66	
		594 13
Emery Street Storehouse:		
Labor and material,		32 31
Five Mile Pond School:		
Ordinary repairs,		47 73
Forest Park School:		
Alterations for manual training and class rooms,	$324 06	
Bells, telephones and lights,	97 20	
Boiler, heating and ventilation repairs,	184 47	
Carpenter labor and material,	32 79	
Electric time clocks,	546 00	
Furniture, shades and mats,	587 57	
Gutters, conductors and roof repairs,	74 95	
Painting, glazing and kalsomining,	249 15	
Plumbing repairs,	32 90	
Tiling for main entrance,	47 00	
Ordinary repairs,	2 25	
		2,178 34
Glenwood School:		
Boiler and heating repairs,	$56 14	
Painting, glazing and kalsomining,	55 24	
Ordinary repairs,	38 70	
		150 08
Amount carried forward,		$20,664 34

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Amount brought forward, ...		$20,664 34
High School (Central):		
Bells, telephones and lights, ...	$199 27	
Boiler, steam and ventilation repairs, . .	352 13	
Carpenter labor and material, . . .	447 73	
Furniture, shades and mats, ...	181 10	
Installing one stoker, ...	1,147 00	
Painting, glazing and kalsomining, . .	581 12	
Plumbing repairs, ...	137 41	
Roof and gutter repairs, ...	82 33	
Ordinary repairs, ...	44 05	
		3,172 14
High School (Technical):		
Bells, telephones and lights, ...	$230 48	
Boiler and steam repairs, engine room supplies, ...	265 98	
Carpenter labor and material, . . .	188 07	
Furniture, shades and mats, ...	116 86	
Gymnasium ventilation, ...	464 26	
Painting, glazing and kalsomining, . .	379 27	
Plumbing and gas piping, ...	185 77	
Ordinary repairs, ...	24 45	
		1,855 14
Homer Street School:		
Bells and lighting repairs, ...	$25 65	
Alteration for class room, ...	58 41	
Boiler and steam repairs, ...	94 81	
Furniture, shades and mats, ...	137 80	
Painting, glazing and kalsomining, . .	40 04	
Installing extra sanitaries, ...	206 62	
Ordinary repairs, ...	15 86	
		579 19
Hooker School:		
Bath room repairs, ...	$63 88	
Bells and lighting, ...	37 12	
Blackboards, ...	45 60	
Carpenter labor and material, . . .	17 95	
Amounts carried forward, . .	$164 55	$26,270 81

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Amounts brought forward, . .	$164 55	$26,270 81
Fence repairs, ...	59 50	
Heating and ventilation repairs, . . .	63 55	
Painting and glazing, ...	119 62	
Plumbing repairs, ...	49 28	
Ordinary repairs, ...	54 52	
		511 02
Howard Street School:		
Bells, telephones and lights, ...	$26 61	
Blackboards, ...	56 66	
Boiler, steam and ventilation motor repairs,	229 82	
Carpenter labor and material, . . .	89 06	
Furniture, shades and mats, . . .	169 75	
Painting, glazing and kalsomining, . .	356 17	
Plumbing repairs, ...	123 68	
Ordinary repairs, ...	45 07	
		1,096 82
Indian Orchard Myrtle Street School:		
Bells and lighting, ...	$43 85	
Blackboards, ...	93 18	
Boiler, steam and ventilation repairs, . .	68 30	
Carpenter labor and material, . . .	48 79	
Floors relaid, ...	256 00	
Furniture, shades and mats, ...	190 59	
Kitchen installed, ...	176 56	
Painting, glazing and kalsomining, . .	137 54	
Plumbing repairs, ...	36 20	
Ordinary repairs, ...	17 63	
		1,068 64
Indian Orchard Main Street School:		
Bells and lights, ...	$27 88	
Enlarging class room, ...	28 40	
Furniture, shades and mats, ...	37 30	
Heating and plumbing repairs, . . .	67 01	
Painting, glazing and kalsomining, . .	22 28	
Sanitaries installed, ...	154 83	
Ordinary repairs, ...	20 62	
		358 32
Amount carried forward, ...		$29,305 61

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Amount brought forward, ...		$29,305 61
Jefferson Avenue School:		
Bells and lights, ...	$37 44	
Boiler and steam repairs, ...	45 12	
Carpenter labor and material, . . .	23 67	
Furniture, shades and mats, ...	43 02	
Mason work, ...	96 55	
Motor and ventilation for closets, . .	127 96	
Painting, glazing and kalsomining, . .	127 31	
Plumbing repairs, ...	50 64	
Roof and gutter repairs, ...	149 51	
Ordinary repairs, ...	24 49	
		725 71
Kensington Avenue School:		
Carpenter labor and material, . . .	$70 83	
Furniture, ...	108 16	
Painting, glazing and kalsomining, . .	96 03	
Plumbing repairs, ...	54 74	
Ordinary repairs, ...	52 46	
		382 22
Lincoln School:		
Bells, telephones and lights, ...	$33 72	
Boiler, steam and ventilation repairs, . .	42 36	
Carpenter labor and material, . . .	37 23	
Painting and glazing, ...	48 72	
Ordinary repairs, ...	53 27	
		215 30
School Street School:		
Carpenter labor and material, . . .	$63 23	
Furniture, shades and mats, ...	44 35	
Gutter and roof repairs, ...	28 80	
Ordinary repairs, ...	46 49	
		182 87
Sixteen Acres School:		
Carpenter labor and material, . . .	$23 78	
Furnace repairs, ...	70 39	
Furniture and shades, ...	21 63	
Ordinary repairs, ...	13 97	
		129 77
Amount carried forward, ...		$30,941 48

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Amount brought forward,		$30,941 48
State Street School:		
Bells and lights,	$45 46	
Blackboards,	122 28	
Carpenter labor and material,	64 11	
Furniture, shades and mats,	140 35	
Gutters, conductors and roof repairs,	177 47	
Heating repairs,	125 43	
Mason work,	118 90	
Metal ceilings,	64 60	
Painting, glazing and kalsomining,	287 56	
Plumbing repairs,	342 78	
Ordinary repairs,	19 90	
		1,508 84
Strickland School:		
Bells and lights,	$26 19	
Carpenter labor and material,	17 00	
Front entrance gates,	105 00	
Painting, glazing and kalsomining,	112 66	
Ordinary repairs,	58 96	
		319 81
Tapley School:		
Bells, telephones and lights,	$142 78	
Carpenter labor and material	42 52	
Furniture, shades and mats,	137 39	
Heating repairs,	20 81	
Mason work,	35 85	
Painting, glazing and kalsomining,	66 53	
Roof repairs,	76 86	
Ordinary repairs,	30 15	
		552 89
Vernon Street Office Building:		
Ordinary repairs,		47 72
Vocational School:		
Furniture,		28 00
Amount carried forward,		$33,398 74

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Amount brought forward, ...		$33,398 74
Wachogue School (unoccupied) :		
White Street School:		
Blackboards, ...	$32 53	
Boiler and steam repairs, ...	99 56	
Carpenter labor and material, . . .	55 78	
Painting and glazing, ...	35 25	
Plumbing and gas piping, ...	57 14	
Ordinary repairs, ...	56 67	
		336 93
William Street School:		
Bells and lights, ...	$29 53	
Boiler and steam repairs, ...	182 35	
Carpenter labor and material, . . .	40 64	
Furniture, shades and mats, ...	45 47	
Painting and glazing, ...	77 65	
Plumbing repairs, ...	49 84	
Ordinary repairs, ...	32 87	
		458 35
Worthington Street School:		
Bells, telephones and lights, ...	$32 01	
Blackboards, ...	41 69	
Boiler, steam and ventilation, . . .	123 47	
Carpenter labor and material, . . .	153 39	
Floors relaid, ...	335 00	
Furniture, shades and mats, ...	135 15	
Mason work, ...	43 55	
Painting, glazing and kalsomining, . .	238 14	
Plumbing repairs, ...	45 41	
Roof and gutter repairs, ...	115 53	
Ordinary repairs, ...	17 28	
		1,282 62
Shop Tools:		22 25
Shop Work:		38 32
Miscellaneous items and supplies on hand: .		78 36
Total expenditures, ...		$35,615 57

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By appropriation,	$32,150 00	
By transfers,	3,566 10	
	$35,716 10	
Total expenditures,	35,615 57	
Balance unexpended,	$100 53	

SCHOOLS: CITY PROPERTY COMMITTEE.

Expenditures from December 1, 1911, to November 30, 1912.

Agent's and janitors' salaries,		$41,669 85
Evening School janitor service,		1,242 30
Extra janitor service,		3,019 08
Shoveling snow from walks,		510 51
Acushnet Avenue School:		
Fuel,	$747 19	
Light,	65 22	
Motor power,	159 93	
Extra mopping (Kindergarten),	24 00	
Floor oil, sprayer,	16 14	
Lawn,	8 25	
Sundry furnishings,	9 28	
		1,030 01
Alden Street School:		
Fuel,	$368 76	
Light,	5 23	
Motor power,	11 49	
Lawn,	3 23	
Sundry furnishings,	6 58	
		395 29
Armory Street School:		
Fuel,	$858 35	
Light,	173 29	
Motor power,	1 11	
Extra mopping (Kindergarten and Annex),	56 00	
Lawn,	9 55	
Sundry furnishings,	38 08	
		1,136 38
Amount carried forward,		$49,003 42

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Amount brought forward,		$49,003 42
Barrows School:		
Fuel,	$539 62	
Light,	96 71	
Floor oil, sprayer,	16 65	
Lawn and tools,	7 96	
		660 94
Belmont Avenue School:		
Light,	$5 11	
Sundry furnishings,	40	
		5 51
Boston Road School:		
Fuel,	$293 34	
Light,	8 90	
Lawn and tools,	3 75	
Sundry labor and furnishings,	4 20	
		310 19
Brightwood School:		
Fuel,	$569 01	
Light,	36 60	
Extra mopping (Kindergarten),	24 00	
Lawn and tools,	8 30	
Sundry furnishings,	3 50	
		641 41
Buckingham School:		
Fuel,	$444 57	
Light,	163 27	
Floor oil, sprayer,	20 00	
Lawn and tools,	13 75	
Sundry labor,	33 71	
		675 30
Carew Street School:		
Fuel,	$839 85	
Light,	19 43	
Floor oil, sprayers,	21 75	
Lawn, tools and grading,	24 49	
Sundry furnishings,	85	
		906 37
Amount carried forward,		$52,203 14

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Amount brought forward,		$52,203 14
Carlisle School (unoccupied):		
Curbing,		59 13
Central Street School:		
Fuel,	$800 62	
Light,	58 77	
Extra mopping (Kindergarten),	24 00	
Floor oil, sprayer,	17 05	
Lawn,	16 05	
Sundry furnishings,	33 72	
		950 21
Charles Street School:		
Fuel,	$278 60	
Light,	1 85	
Lawn,	3 02	
Sundry furnishings,	30	
		283 77
Chestnut Street School:		
Fuel,	$2,536 50	
Light,	561 91	
Motor power,	274 50	
Extra mopping,	117 00	
Floor oil, sprayer,	16 77	
Lawn and tools,	35 95	
Sundry furnishings,	19 45	
		3,562 08
Dry Bridge School:		
Fuel,	$23 86	
Sundry labor,	3 00	
		26 86
Eastern Avenue School:		
Fuel,	$614 70	
Light,	12 81	
Extra mopping (Kindergarten),	24 00	
Lawn,	6 75	
Sundry furnishings,	19 44	
		677 70
Amount carried forward,		$57,762 89

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Amount brought forward,		$57,762 89
East Union Street School:		
Fuel,	$465 88	
Light,	56 82	
Motor power,	115 86	
Extra mopping (Kindergarten),	20 00	
Floor oil,	14 00	
Lawn and tools,	6 67	
Sundry labor,	1 50	
		680 73
Emery Street Storehouse:		
Fuel,	$37 24	
Light,	2 56	
Sundry labor,	3 60	
		43 40
Five Mile Pond School:		
Sundry labor,		3 00
Forest Park School:		
Fuel,	$1,452 79	
Light,	117 46	
Motor power,	52 20	
Extra mopping (Kindergarten),	12 00	
Floor oil, sprayer,	17 25	
Lawn, tools and grading,	42 85	
Sundry furnishings,	16 05	
		1,710 60
Glenwood School:		
Fuel,	$197 14	
Light,	77	
Lawn and tools,	7 58	
Sundry furnishings,	20	
		205 69
Amount carried forward,		$60,406 31

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Amount brought forward,		$60,406 31
High School (Central):		
Fuel,	$2,106 51	
Light,	1,566 24	
Motor power,	423 54	
Floor oil, sprayers,	38 82	
Lawn and tools,	43 48	
Sundry furnishings,	31 61	
		4,210 20
High School (Technical):		
Fuel,	$2,535 84	
Light,	782 01	
Motor power,	51 00	
Custodian,	300 00	
Extra mopping,	194 50	
Floor oil, sprayer,	15 66	
Lawn and tools,	29 05	
Sundry furnishings,	15 63	
		3,923 69
Homer Street School:		
Fuel,	$642 02	
Light,	6 50	
Extra mopping,	25 00	
Lawn and tools,	13 15	
Sundry furnishings,	30	
		686 97
Hooker School:		
Fuel,	$1,370 84	
Light,	77 43	
Extra mopping (Kindergarten),	24 00	
Floor oil, sprayer,	16 54	
Lawn and tools,	16 50	
Sundry furnishings,	19 18	
		1,524 49
Amount carried forward,		$70,751 66

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Amount brought forward,		$70,751 66
Howard Street School:		
Fuel,	$1,332 31	
Light,	428 23	
Motor power,	204 00	
Extra mopping (Kindergarten),	20 00	
Floor oil, sprayer,	15 96	
Lawn and tools,	16 78	
Sundry furnishings,	22 14	
		2,039 42
Indian Orchard Myrtle Street School:		
Fuel,	$670 34	
Light,	100 02	
Motor power,	163 38	
Extra mopping (Kindergarten),	18 00	
Floor oil, sprayer,	16 14	
Lawn and tools,	9 57	
		977 45
Indian Orchard Main Street School:		
Fuel,	$649 84	
Light,	91 42	
Extra mopping (Kindergarten),	23 10	
Lawn,	5 20	
Sewer connection,	16 60	
		786 16
Jefferson Avenue School:		
Fuel,	$556 87	
Light,	32 07	
Extra mopping (Kindergarten),	20 00	
Lawn and tools,	8 30	
		617 24
Kensington Avenue School:		
Fuel,	$552 97	
Light,	59 06	
Motor power,	145 89	
Extra mopping (Kindergarten),	12 00	
Floor oil, sprayer,	17 14	
Lawn,	14 55	
		801 61
Amount carried forward,		$75,973 54

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Amount brought forward,		$75,973 54
Lincoln School:		
Fuel,	$472 81	
Light,	125 04	
Motor power,	111 69	
Lawn and tools,	13 88	
Sundry furnishings,	14 50	
		737 92
School Street School:		
Fuel,	$359 39	
Light,	2 40	
Lawn and tools,	3 15	
Grading,	25 00	
Sundry furnishings,	9 27	
		399 21
Sixteen Acres School:		
Fuel,	$105 69	
Sundry labor,	3 00	
		108 69
State Street School:		
Fuel,	$1,053 25	
Light,	329 75	
Lawn and tools,	14 20	
Sundry labor and furnishings,	18 91	
		1,416 11
Strickland School:		
Fuel,	$479 24	
Light,	15 71	
Lawn,	2 54	
		497 49
Sumner Avenue School:		
Fuel,	$252 28	
Light,	14 91	
Motor power,	70 32	
Extra mopping (Kindergarten),	12 00	
Lawn and tools,	9 80	
Sundry furnishings,	93	
		360 24
Amount carried forward,		$79,493 20

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Amount brought forward,		$79,493 20
Tapley School:		
Fuel,	$707 03	
Light,	60 59	
Extra mopping (Kindergarten),	24 00	
Lawn and tools,	16 55	
Sundry furnishings,	4 40	
		812 57
Vernon Street Office:		
Fuel,	$165 78	
Light,	39 71	
Electric fan,	14 50	
Sundry furnishings,	12 72	
		232 71
Wachogue School (unoccupied):		
White Street School:		
Fuel,	$1,019 35	
Light,	38 40	
Motor power,	183 42	
Extra mopping (Kindergarten),	20 00	
Lawn and tools,	14 30	
Sundry furnishings,	50	
		1,275 97
William Street School:		
Fuel,	$874 74	
Light,	44 78	
Motor power,	129 75	
Extra mopping (Kindergarten),	30 00	
Floor oil,	11 66	
Lawn and tools,	10 37	
Sundry furnishings,	28 97	
		1,130 27
Amount carried forward,		$82,944 72

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Amount brought forward,		$82,944 72
Worthington Street School:		
Fuel,	$710 77	
Light,	293 07	
Floor oil, sprayer,	17 00	
Lawn and tools,	7 23	
Sewer,	51 09	
Sundry furnishings,	21 30	
		1,100 46
Advertising,	$21 26	
Automobile,	525 70	
Boiler insurance,	345 05	
Clerical work,	608 00	
Coal analysis,	9 00	
Stationery, stamps and typewriter supplies—Schoolhouse Agent,	72 80	
Stationery, books, stamps, etc.—City Property Committee,	50 95	
Telephone rental and tolls,	32 50	
Typewriting report,	7 00	
Walks, Pecousic avenue,	211 84	
Miscellaneous,	38 40	
		1,922 50
		$85,967 68
Transfer to Schoolhouse Repairs,		425 00
Total expenditures,		$86,392 68

By appropriation,	$86,200 00	
By transfer,	211 84	
	$86,411 84	
Total expenditures,	86,392 68	
Balance unexpended,	$19 16	

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FUEL SUPPLIED TO SCHOOLS.

From December 1, 1911, to November 30, 1912.

	Coal (Pounds.)	Charcoal (Bushels.)
Acushnet Avenue School,	247,530	200
Alden Street School,	117,770	175
Armory Street School,	300,660	100
Barrows School,	190,370	50
Boston Road School,	89,600	76
Brightwood School,	183,680	60
Buckingham School,	131,710	120
Carew Street School,	268,800	100
Central Street School,	280,000	125
Charles Street School,	89,600	40
Chestnut Street School,	961,590	200
Dry Bridge School,	6,720	30
Eastern Avenue School,	201,600	
East Union Street School,	152,790	
Emery Street Storehouse,	12,480	
Forest Park School,	515,400	75
Glenwood School,	65,320	106
High School (Central) and State Street Grammar School,	1,716,770	
High School (Technical),	1,327,670	
Homer Street School,	206,080	95
Hooker School,	459,200	150
Howard Street School,	446,780	280
Indian Orchard Grammar School,	234,660	100
Indian Orchard Primary School,	195,000	175
Jefferson Avenue School,	189,030	90
Kensington Avenue School,	275,880	125
Lincoln School,	227,680	100
School Street School,	112,000	40
Sixteen Acres School,	33,600	24
Strickland School,	168,800	50
Sumner Avenue School,	224,500	100
Tapley School,	246,320	130
White Street School,	325,240	120
William Street School,	283,640	90

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	Coal (Pounds.)	Charcoal (Bushels.)
Worthington Street School,	240,260	150
Vernon Street Office Building,	53,270	10
	10,782,000	3,286
Expenditure for coal,	$27,243 66	
Expenditure for charcoal,	458 43	
	$27,702 09	

SUPPLIES FURNISHED JANITORS.

Acushnet Avenue School,	$31 55
Alden Street School,	14 71
Armory Street School,	54 48
Barrows School,	23 65
Belmont Avenue School,	3 71
Boston Road School,	17 30
Brightwood School,	31 47
Buckingham School,	33 55
Carew Street School,	38 37
Central Street School,	35 22
Charles Street School,	17 83
Chestnut Street School,	101 98
Dry Bridge School,	2 02
Eastern Avenue School,	31 78
East Union Street School,	9 67
Five Mile Pond School,	2 86
Forest Park School,	68 06
Glenwood School,	7 26
High School (Central),	89 57
High School (Technical),	147 28
Homer Street School,	22 11
Hooker School,	41 48
Howard Street School,	62 59
Indian Orchard Grammar School,	41 25
Indian Orchard Primary School,	3 89
Jefferson Avenue School,	31 44
Kensington Avenue School,	18 79
Lincoln School,	32 04

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School Street School,	$10 44
Sixteen Acres School,	10 21
State Street School,	29 25
Strickland School,	10 88
Sumner Avenue School,	58 34
Tapley School,	49 13
Vernon Street Office Building,	7 17
Vocational School,	10 22
White Street School,	32 38
William Street School,	31 20
Worthington Street School,	39 10
	$1,304 23

SUPPLIES FURNISHED BATH ROOMS.

Armory Street School,	$27 95	
Chestnut Street School,	15 30	
East Union Street School,	15 32	
Hooker School,	29 11	
Howard Street School,	15 56	
William Street School,	19 26	
Worthington Street School,	11 80	
		134 30
Supplies furnished Lunch department, Central High School,		3 95
Supplies furnished Lunch department, Technical High School,		4 39
Total janitor, bath room and Lunch department supplies,		$1,446 87

EXPENDITURES FOR JANITORS' SUPPLIES.

Janitors' supplies and furnishings,	$1,079 39
Laundering towels, etc.,	490 52
Repairing flags,	19 05
Express and freight charges,	22 66
Total expenditures,	$1,611 62

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SUMNER AVENUE SCHOOL.

By balance from 1911,		$35,056 10
By receipts,		257 26
Total,		$35,313 36
Expenditures, Schoolhouse,	$31,655 80	
Expenditures, No. 49 Sumner avenue,	286 92	
		31,942 72
Balance unexpended,		$3,370 64

CENTRAL STREET SCHOOL.

Balance from 1911,		$535 87
By transfers,		14,185 16
Total,		$14,721 03
Expenditures, Schoolhouse,	$10,287 76	
Expenditures, No. 374 Central street,	21 03	
		10,308 79
Balance unexpended,		$4,412 24

MUNICIPAL HEATING AND LIGHTING PLANT.

Engineer and firemen,	$5,548 15
Coal,	3,823 31
Ash cans,	97 20
Boiler and heating supplies,	99 65
Boiler insurance,	40 00
Coal analyses,	16 00
Engine room supplies,	110 71
Furniture and mats,	62 62
Light,	136 43
Laundering towels,	17 70
Oil,	49 65
Tools, tool chest, etc.,	82 81
Sundry furnishings,	20 60
Total expenditures,	$10,104 83

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Amount brought forward,		$10,104 83
Credit, for heating Police headquarters,	$2,307 50	
Credit, for heating Fire Department headquarters,	1,800 00	
		4,107 50
Expenditures,		$5,997 33
By appropriation,	$9,400 00	
Expenditures,	5,997 33	
Balance unexpended,		$3,402 67

MILITIA RIFLE RANGE.

Caretaker,		$253 00
Cleaning pits, taking down targets, etc.,		208 91
Electrical repairs,		16 48
Taxes,		112 70
Water,		15 00
Sundry labor and material,		4 14
Total expenditures,		$610 23
By appropriation,	$600 00	
By transfer,	10 23	
		$610 23

Respectfully submitted,

H. L. DORMAN,

Schoolhouse Agent.

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BOARD OF ALDERMEN, December 16, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 16, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 17, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 17, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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APPENDIX.

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SCHOOL CALENDAR, 1913.

Winter Term begins	January 2, 1913
Winter Term ends	February 21, 1913
Spring Term begins	March 3, 1913
Spring Term ends	April 25, 1913
Summer Term begins	May 5, 1913
Summer Term ends	June 27, 1913
Fall Term begins	September 2, 1913
Fall Term ends	December 19, 1913

SCHOOL HOLIDAYS.

Washington's Birthday	February 22
Patriots' Day	April 19
Memorial Day	May 30
Columbus Day	October 12
Thanksgiving	(Thursday and Friday)

SCHOOL SIGNALS.

Two blows, five times, at 7.30 A. M.
No morning session of high schools.

Two blows, five times, at 7.45 A. M.
No morning session of primary and grammar schools.

Two blows, five times, at 11.30 A. M.
No afternoon session of primary and grammar schools.

Two blows, five times, at 12.15 P. M.
No afternoon session of high school.

In addition to the bell signals there will be two blasts of the steam whistle.

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SCHOOL BOARD FOR 1913.

JOHN A. DENISON, MAYOR,
CHAIRMAN, *ex officio*.

	TERM EXPIRES.
AT LARGE.—NEWTON M. HALL, 19 Elliott Street.	Dec. 31, 1915
WARD 1.—WAYLAND V. JAMES, 69 Waverly Street.	Dec. 31, 1915
WARD 2.—HENRY L. HIRSCH, 172 Main Street.	Dec. 31, 1915
WARD 3.—RALPH B. OBER, 76 Maple Street.	Dec. 31, 1913
WARD 4.—LEONA M. PEIRCE, 247 Union Street.	Dec. 31, 1913
WARD 5.—MRS. ESTHER J. MORGAN, 7 Lincoln Street.	Dec. 31, 1913
WARD 6.—FREDERICK HARRIS, 270 Maple Street.	Dec. 31, 1914
WARD 7.—FRANCIS M. BENNITT, VICE-CHAIRMAN, 120 Sumner Avenue.	Dec. 31, 1914
WARD 8.—GEORGE H. HOWARD, 204 Wilbraham Road.	Dec. 31, 1914

SECRETARY,
BERTHA M. McCONKEY.

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SUPERINTENDENT OF SCHOOLS,

JAMES H. VAN SICKLE,

Office, 47 Vernon Street. Office hours: School days, from 12 M. to 1 P. M.; Saturdays, from 10 A. M. to 1 P. M.

ASSISTANT SUPERINTENDENT OF SCHOOLS, PRIMARY SCHOOLS, AND KINDERGARTENS,

BERTHA M. McCONKEY,

Office, 47 Vernon Street. Office hours: School days, from 12 M. to 1 P. M.; Saturdays, from 10.30 A. M. to 1 P. M.

CHIEF CLERK,

FRED L. WARD,

Office, 47 Vernon Street. Office hours: 8.30 A. M. to 5 P. M.; Saturdays, 8.30 A. M. to 1 P. M.

CLERKS,

EDWINA A. MILLER,
CHARLES A. H. PARKER,
A. LEOTA PINNEY,
ANNA F. LEONARD.

SCHOOLHOUSE AGENT,

HIRAM L. DORMAN,

Office, 47 Vernon Street. Office hours: 10.30 to 11.30 A. M. and 4 to 5 P. M.

CLERK,

L. EMELYN TEN EYCK.

TRUANT OFFICER,

JOHN A. PARKER,

ASSISTANT,

H. A. KILLMER,

Office, 47 Vernon Street. Office hour: 1 to 2 P. M.

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SPECIAL COMMITTEES FOR 1913.

Finance.

THE MAYOR, DR. BENNITT, and MR. HARRIS.

Text-Books and Supplies.

MISS PEIRCE, PROF. HOWARD, and DR. HALL.

Central High School.

DR. BENNITT, MISS PEIRCE, and DR. HALL.

Technical High School.

DR. OBER, MRS. MORGAN, and PROF. HOWARD.

High School of Commerce.

MR. HARRIS, DR. BENNITT, and MR. JAMES.

Industrial Schools and Manual Training.

MR. JAMES, DR. HALL, and DR. HIRSCH.

Evening Schools.

PROF. HOWARD, MRS. MORGAN, and DR. OBER.

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Kindergartens.

DR. OBER, MISS PEIRCE, and DR. HIRSCH.

Ungraded Schools.

DR. HALL, DR. HIRSCH, and PROF. HOWARD.

Physical Culture and Hygiene.

DR. BENNITT, DR. OBER, and DR. HIRSCH.

Music.

MRS. MORGAN, MISS PEIRCE, and MR. HARRIS.

Domestic Science and Art.

MISS PEIRCE, MRS. MORGAN, and PROF. HOWARD.

New Buildings.

MR. HARRIS, MR. JAMES, and DR. OBER.

Salaries.

MR. JAMES, DR. BENNITT, and MRS. MORGAN.

Ward One Group of Schools.

Carew street, Brightwood, Lincoln, Jefferson avenue, Armory street, and Chestnut street.

MR. JAMES.

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Ward Two Group of Schools.

Hooker and Charles streets.

DR. HIRSCH.

Ward Three Group of Schools.

Howard Street.

DR. OBER.

Ward Four Group of Schools.

State street, Worthington street, and School street.

MISS PEIRCE.

Ward Five Group of Schools.

Barrows, Tapley, Strickland, and East Union street.

MRS. MORGAN.

Ward Six Group of Schools.

Acushnet avenue and William street.

MR. HARRIS.

Ward Seven Group of Schools.

Central street, Sumner avenue, Forest Park, Kensington avenue, Alden street, White street, and Eastern avenue.

DR. BENNITT.

Ward Eight Group of Schools.

Buckingham, Homer street, Indian Orchard Grammar and Primary.

PROF. HOWARD.

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ADVISORY COMMITTEE FOR VOCATIONAL SCHOOL.

Metal-Working Department.

EDWARD S. POMEROY,
Superintendent Smith & Wesson's.

R. W. ELLINGHAM,
Superintendent Hendee Manufacturing Co.

CLARENCE W. ALLEN,
Superintendent Springfield Machine Co.

Wood-Working Department.

A. G. CHAPMAN,
Carpenter-Builder.

C. H. CUTLER,
Foreman Hampden Lumber Co.

WILLIAM FOSTER,
Foreman for Shattuck Brothers.

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HIGH SCHOOL OPPORTUNITIES IN SPRINGFIELD.

Pupils who have completed the work of the grammar schools find awaiting them in the courses offered in the three schools of advanced grade unusually rich and varied opportunities for entering upon the next stage of their education. These schools are not managed as entirely separate and unrelated institutions. They are so conveniently grouped that interchange of students is easy and economical. On graduating from the grammar school a pupil decides, with the advice and approval of his parents, what course among those offered in the high schools most fully meets his needs. He is then assigned for enrollment to that school in which his entire course, or the greater part of his course, is carried on. To secure certain portions of his work he may need to report for one or more periods each week at a recitation room, laboratory, or gymnasium in one of the other schools, but his assignment for enrollment in a school is decided on the basis of the predominant characteristics of the course which he chooses.

CENTRAL HIGH SCHOOL.

First high school in Springfield; organized, 1841.

Central High School, organized, 1849.

Present building occupied, 1898.

Alumni Association organized, 1854.

Officers of the Alumni Association: Executive Committee: President, Frederick Harris; vice-president, Mrs. George Pirnie; secretary, Robert C. Pepper; treasurer, Philip Beebe; Mrs. W. F. Adams, Mrs. Walter V. McDuffee, Mrs. Kingman Brewster, Walter G. Morse, Raymond A. Bidwell.

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TECHNICAL HIGH SCHOOL.

Manual training course opened to high school pupils, 1886.

Organized as Mechanics Arts High School, 1898.

Present name adopted, 1904.

Housed in present building and courses in household technology offered for girls, 1906.

Alumni Association organized, 1903.

Officers of Alumni Association: President, Herbert U. Pease; vice-president, Carl H. Handforth; secretary and treasurer, Wallace C. Day; member-at-large, John V. Doyle.

HIGH SCHOOL OF COMMERCE.

Organized as a department in Central High School, 1898.

Transferred to Technical High School, 1906.

Organized as High School of Commerce and transferred to Central High School Building, with sessions in the afternoon, 1910.

TERMS OF ADMISSION TO ALL HIGH SCHOOLS.

Pupils are admitted to the high schools twice a year. All pupils of the grammar schools who are recommended by the principals of these schools are admitted without examination. All those not so recommended are granted the privilege of an examination for admission if they desire it.

Non-residents are admitted upon passing the required examination and paying a tuition of $100 per year in advance. A special pamphlet containing the courses of study and all other necessary information in regard to the school is issued separately, and may be obtained by applying to the Superintendent of Schools.

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EVENING SCHOOL OF TRADES.

Organized, 1898.

Conducted in Technical High School building beginning, 1906.

TERMS OF ADMISSION.

Tuition in all the classes is free to all persons over fourteen years of age who are residents of Springfield, but a fee of $5 for materials and other incidental expenses is charged each member of the classes in machine shop practice, and in pattern-making; in plumbing this incidental fee is $8, and in the laboratory work in electricity it is $4. Non-residents are charged a tuition fee for the season of twenty-four weeks as follows: For mechanical drawing, for mathematics, and for electricity, $10; for all other classes, $15. Non-residents are also charged the incidental fees. Members are required to be regular in attendance. Persons wishing to join classes must give satisfactory references as to character and show evidence of ability to do the work required. Certificates of proficiency are awarded in each course to those who complete that course satisfactorily. The school opens the second week in October and is in operation 24 weeks, closing Thursday and Friday evenings of Thanksgiving week and during the vacation of the Christmas holiday season. The school hours are from 7.15 P. M. to 9.15 P. M.

Tuition in all the evening art classes and in the practical classes in domestic science, sewing, and home decoration is free to all persons over fourteen years of age who are residents of Springfield, but a fee of $2.50 for materials and other incidental expenses is charged each member of the classes in design and crafts and domestic science; in the classes in sewing and dressmaking this incidental fee is $2. No incidental fee is charged for the classes in free-hand and model drawing. In addition to these incidental fees non-residents are charged a tuition fee of $10 for the season of twenty-four weeks.

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VOCATIONAL SCHOOL.

Organized in Technical High School building, 1908.

In July, 1911, State approval was secured with reimbursement of one half the cost of maintenance and the school was transferred to rented quarters at 36 Taylor street.

TERMS OF ADMISSION.

This school is designed for boys over fourteen years of age, enrolled in the upper grammar grades.

Tuition for non-residents at this school is $100 per year, payable in advance.

DECORATION OF SCHOOLROOMS.

The works of art that beautify many of the schoolrooms in the city have a refining influence upon the children who see them from day to day. The deep interest taken in securing fine works of art for decorating the schoolrooms is shown by the large sums that have been collected for this purpose in many of the schools. Without doubt money thus spent will yield a large return in the form of a better appreciation of that which enriches the emotional nature.

The table given herewith indicates the fund raised up to the present time by each school that has engaged in this work:—

Central High,	$6,724 07
High School of Commerce,	394 00
Technical High,	497 75
Acushnet Avenue,	277 47
Alden Street,	113 00
Armory Street,	423 56
Barrows,	873 40
Boston Road,	13 80
Brightwood,	94 00
Buckingham,	881 65

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Carew Street,	$263 81
Central Street,	998 21
Charles Street,	15 00
Chestnut Street,	1,230 00
Eastern Avenue,	128 92
East Union Street,	64 85
Forest Park,	675 96
Glenwood,	5 00
Homer Street,	80 00
Hooker,	973 46
Howard Street,	977 20
Indian Orchard Grammar,	180 00
Indian Orchard Primary,	112 00
Jefferson Avenue,	780 00
Kensington Avenue,	406 84
Lincoln School,	163 25
School Street,	143 28
State Street,	140 00
Strickland,	190 66
Sumner Avenue,	184 55
Tapley,	551 95
White Street,	467 46
William Street,	473 83
Worthington Street,	700 16
	$20,476 56

SCHOOL SAVINGS BANKS.

The two statistical tables given below have been furnished by the Secretary of the Union Relief Association. The items that appear in the first table are taken from the annual report of the Association. The savings made by the children of the various schools, as shown in this tabulated statement, are deposited in the savings banks of Springfield.

The items that appear in the second table include the total sales of stamps and the total amount deposited in savings banks for the past fifteen years. This summary shows the extent of this excellent work.

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Statistics for year from April 1, 1911, to April 1, 1912:—

	Amount of Stamps Sold at Schools.	Amount Deposited in Savings Bank.
Acushnet Avenue,	$124 47	$125 29
Alden Street,	70 00	38 27
Armory Street,	214 74	114 45
Barrows,	102 03	24 16
Belmont Avenue,	85 00	67 30
Brightwood,	4 91	11 13
Carew Street,	389 34	265 09
Central Street,	105 00	123 92
Charles Street,	148 00	77 27
Eastern Avenue,	123 00	108 34
East Union Street,	13 00	14 67
Forest Park,	68 50	70 14
Hooker,	1,037 31	912 03
Howard Street,	160 00	78 58
Indian Orchard Grammar,	278 00	185 22
Indian Orchard Primary,	146 00	88 08
Jefferson Avenue,	15 00	88 53
Kensington Avenue,	236 00	118 50
Strickland,	89 00	55 61
Sumner Avenue,	10 00	1 98
White Street,	180 00	77 80
William Street,	86 86	36 73
Worthington Street,	47 00	84 23
	$3,733 16	$2,767 32

Year.	Total Sales for Fifteen Yrs.	Total Bank Deposits for Fifteen Yrs.	Year.	Total Sales for Fifteen Yrs.	Total Bank Deposits for Fifteen Yrs.
1897	$4,451.43	$3,111.25	1905	$5,012.27	$2,980.66
1898	3,547.47	2,320.62	1906	7,700.86	3,990.86
1899	4,790.41	2,973.65	1907	6,135.30	3,628.97
1900	4,736.63	2,661.01	1908	8,659.73	3,900.87
1901	4,513.84	2,719.25	1909	7,323.49	3,489.59
1902	6,024.34	3,414.73	1910	5,856.61	3,008.23
1903	5,238.94	3,155.38	1911	5,488.42	3,191.04
1904	4,802.99	2,573.41	1912	3,738.16	2,767.32
				$88,015.89	$49,886.84

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LIST OF TEXT-BOOKS.

AUTHORIZED FOR USE IN THE PUBLIC SCHOOLS.

PRIMARY AND GRAMMAR SCHOOLS.

Ordinary type without numbers indicates books of which a copy is to be furnished to each pupil; ordinary type with numbers in parentheses indicates books of which the numbers specified will be furnished to a building; books in italics will be furnished in sets not exceeding 25 to each room in which they are used. Schools needing less than these quantities should make requisitions for less. These statements do not apply to high school books.

READING.

AUTHOR.	TITLE.	GRADE.
Blaisdell	*Boy Blue and his Friends*	II
Blaisdell, Etta A.	Child Life Reader, 1st to 3d	I-III
Bryce, Katherine	*Child-Lore Reader*	II
Burgess, T. W.	Old Mother West Wind	III
Cyr, Ellen M.	Primer	I
Free & Treadwell	*The Primer*	I
Holbrook, Florence	Hiawatha Primer	II
Howe, W. D.	Third Reader	III
Jones, L. H.	Jones' Third Reader (40)	III
Noyes & Guild	Sunshine Primer	I
Osgood, Eulalie Grover	Folklore Primer	I
Osgood, Eulalie Grover	Sunbonnet Babies Primer	I
Powers & Balliet	Readers	I-IX
Rice & Ketchum	*Our Story Reader*	I
Shaw, Edward R.	Big People and Little People of Other Lands	III
Stevenson, Augusta	*Children's Classics in Dramatic Form*	IV
Thompson, J. G. & T. E.	For Childhood Days	I
Wiltse, Sara E.	Folklore Stories and Proverbs	II
GEOGRAPHICAL.		
Andrews, Jane	Seven Little Sisters	IV
Carpenter, Frank G.	Geographical Reader, Asia	V
Carpenter, Frank G.	Geographical Reader, North America	VI
Carpenter, Frank G.	Geographical Reader, Europe	VII
Carroll, Stella W.	Around the World, Bk. 1	II

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AUTHOR.	TITLE.	GRADE.
Carroll, Stella W.	Around the World, Bk. 2	IV
Chaplin, F. P. & Humphrey, F. A.	Little Folks of Other Lands	II
Kirby, Mary & Elizabeth	Aunt Martha's Corner Cupboard (50)	IV
Schwatka, Frederick	Children of the Cold (50)	V
HISTORICAL.		
Eggleston, Edward	Stories of Great Americans (50)	IV
Ellson & Macmullan	*Story of Our Country*	IV
Hawthorne, N.	Grandfather's Chair (50)	VII
Pratt, Mara L.	Legends of the Red Children (50)	VI
Smythe, E. Louise	Old Time Stories	II
Tanner, Dorothy	Legends from the Red Man's Forest (50)	V
ELEMENTARY SCIENCE.		
Cooke, Flora J.	Nature Myths (50)	III
Long, William J.	Ways of Wood Folk (50)	V
GENERAL LITERATURE.		
Æsop	Fables (Stickney)	IV
Andersen, Hans	Fairy Tales, I & II (50)	V
Baldwin, James	Fairy Stories and Fables (50)	III
Baldwin, James	Old Greek Stories (50)	IV
Beckwith, M. Helen	In Mythland, Vol. I	II
Bellamy, Charles J.	Wonder Children	IV
Carroll, Lewis	Alice's Adventures in Wonderland (50)	V
Cook, Agnes S.	Story of Ulysses (50)	V
Cooper, J. Fenimore	The Spy (50)	VII
Defoe, Daniel	Robinson Crusoe (Lambert) (50)	VI
Dickens, Charles	Christmas Carol, etc. (50-100)	VIII
Dickens, Charles	Little Nell (50-100)	VII
Dickens, Charles	Tale of Two Cities	IX
Francillon, R. E.	Gods and Heroes	VIII
Hawthorne, N.	Tanglewood Tales (50)	VII
Hawthorne, N.	Wonder Book (50)	VI
Homer	Odyssey (Palmer) (50-100)	IX
Kingsley, Charles	Water Babies (50)	V
Longfellow, H. W.	Hiawatha (50)	VI
Longfellow, H. W.	Selections (50-100)	VIII
Martineau, Harriet	Peasant and Prince	IX
Norton, C. Eliot	Heart of Oak, I (25)	I
Scott, Walter	Ivanhoe	IX
Scott, Walter	Kenilworth (50-100)	IX
Scott, Walter	Lady of the Lake (Rolfe) (50-100)	IX

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AUTHOR.	TITLE.	GRADE.
Scott, Walter	Marmion (Rolfe) (50-100)	IX
Scott, Walter	The Talisman (Holbrook) (50-100)	IX
Shakespeare, W.	Julius Cæsar (Hudson) (50)	IX
Stockton, Frank R.	Fanciful Tales (50)	V
Wyss, J. D. & J. R.	Swiss Family Robinson (Stickney) (50)	VI

LANGUAGE.

Chancellor	Graded City Speller, Fifth Year	V
Chancellor	Graded City Speller, Sixth Year	VI
Chancellor	Graded City Speller, Book II	VII-IX
Southworth, G. A.	Elements of Composition and Grammar	VIII, IX

ARITHMETIC.

Emery, M. S.	Everyday Business (50)	VIII
Nichols, W. F.	New Graded Lessons in Arith.	II-V
Smith, D. E.	Primary	III, IV
Smith, D. E.	Intermediate	V, VI
Smith, D. E.	Advanced	VII, VIII
Southworth–Stone	Book I	III, IV
Southworth–Stone	Book II	V, VI
Southworth–Stone	Book III	VII, VIII
Spencer, W. G.	Inventional Geometry	IX

GEOGRAPHY.

Frye, Alexis E.	Grammar School Geography	VIII
Morton, Eliza H.	Advanced Geography	VI, VII
Morton, Eliza H.	Elementary Geography	V
King, Charles F.	Advanced Geography	IX
Tarr and McMurry	Geography, Second Book, Part I	VI

HISTORY.

Fiske, John	War of Independence	IX
Gibson, J. W.	Chart History of the Civil War (50-100)	VIII
Gordy, Wilbur F.	Complete History of the United States	VII, VIII
Gordy, Wilbur F.	American Leaders and Heroes (50)	V
Gordy, Wilbur F.	American Beginnings in Europe	VI
Montgomery, D. H.	Leading Facts of French History (50-100)	IX
Scudder, Horace E.	George Washington (50-100)	VII
Tappan, Eva March	England's Story	IX

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PHYSIOLOGY.

AUTHOR.	TITLE.	GRADE.
Blaisdell, Albert F.	Child's Book of Health	IV
Blaisdell, Albert F.	How to Keep Well	VII
Steele, J. D.	Hygiene for Young People	VI

BOOKKEEPING.

Meservey, A. B.	Bookkeeping	VIII

MUSIC.

Zuchtman, F.	New American Music Reader, Book II	III, IV
Zuchtman, F.	New American Music Reader, Book III	V, VI
Zuchtman, F.	New American Music Reader, Book IV	VII-IX

PENMANSHIP.

Hill, Anna E.	System of Medial Slant Penmanship	I-IX

DICTIONARY.

Webster, Noah	Primary Dictionary	IV, V
Webster, Noah	Common School Dictionary	VI-IX

MANUAL TRAINING.

Murray, M. W.	Problems in Wood Working	

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HIGH SCHOOLS.

CLASSICS.

Text-Books:

AUTHOR.	TITLE.
Allen & Greenough	Cæsar
Allen & Greenough	Latin Grammar
Arrowsmith & Knapp	Viri Romæ
Autenreith	Homeric Dictionary
Barss	Cornelius Nepos
Collar & Daniell	Practical Latin Composition
Collar & Daniell	First Year Latin
Collar & Daniell	New Gradatim
D'Ooge	Latin Composition
D'Ooge	Cicero
Fairdough & Brown	Æneid
Gleason	Xenophon's Cyropædia
Gleason	Greek Prose Composition
Greenough & Daniell	Sallust's Catiline
Greenough & Kittredge	Vergil
Hadley & Allen	Greek Grammar
Harper	Latin Dictionary
Keep	Homer's Iliad (Books I-VI)
Kelsey	Cæsar, Gallic Wars
Kelsey	Cicero
Kelsey	Ovid
Kelsey	Xenophon's Anabasis
Liddell & Scott	Abridged Greek Dictionary
Merry	Homer's Odyssey (Books I-XII)
Perrin	Homer's Odyssey (Books I-IV)
Potter	A New Method for Cæsar
Ritchie	Fabulæ Faciles
Rolfe	Xenophon's Anabasis (Book V)
Shuckburgh	Cicero de Senectute (Cato Major)
White	First Greek Book
Woodruff	Greek Prose Composition

Supplementary Books:

Allen & Greenough	Cicero
Barss	Third Year Latin for Sight Reading
Butler	Herodotus (Book VII)
Collar	Gate to Cæsar
Conington	Vergil
Greenough	Vergil's Æneid (Books VII-XII)
Jeram	Angelice Reddenda
Moss	First Greek Reader
Page	Bucolics of Vergil
Page	Fifty Letters of Cicero
Pearson	Greek Prose Composition

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AUTHOR.	TITLE.
Pearson	Latin Prose Composition
Towle and Jenks	Cæsar for Sight Reading
	ENGLISH.
Text-Books:	
Addison	Sir Roger de Coverley Papers
Brooks & Hubbard	Composition Rhetoric
Browning	Shorter Poems
Buehler	Exercises in English
Bunyan	Pilgrim's Progress
Burke	Speech on Conciliation with America
Byron	Shorter Poems
Carlyle	Essay on Burns
Coleridge	Ancient Mariner
Cooper	The Last of the Mohicans
De Quincey	English Mail Coach
Dickinson & Roe	Nineteenth Century English Prose
Eliot	Silas Marner
Emerson	Culture, Books, Power
Genung	Outlines of Rhetoric
Goldsmith	Vicar of Wakefield
Halleck	History of American Literature
Hitchcock	Words and Sentences
Kittredge & Arnold	Manual of Composition
Lockwood & Emerson	Composition and Rhetoric
Long	American Poems
Long	English Literature
Lowell	Vision of Sir Launfal
Macaulay	Lays of Ancient Rome
Macaulay	Essays on Milton and Addison
Macmillan Co.	An Outline for the Study of American Civil Government
Milton	Lyrics
Milton	Paradise Lost
Mooney	Foundation Studies in Literature
Pancoast	Introduction to American Literature
Pancoast	Introduction to English Literature
Pope	Iliad
Pope	Rape of the Lock
Shackford & Judson	Composition, Rhetoric, and Literature
Scott	Ivanhoe
Scott	Marmion
Scott & Denney	Composition-Rhetoric
Scott & Denney	Elementary English Composition
Simonds	Student's History of English Literature
Tennyson	Idylls of the King
Tennyson	The Princess
Thurber	Select Essays of Macaulay

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AUTHOR.	TITLE.
Webster	Bunker Hill Oration
Webster	English Composition and Literature
Woolley	Handbook for Composition
Wordsworth	Shorter Poems
Supplementary Books:	
Aldrich	Story of a Bad Boy
Arnold	Sohrab and Rustum
Bacon	Essays
Bigelow	Handbook of Punctuation
Blackmore	Lorna Doone
Bradley	Orations and Arguments
Browning	Cavalier Tunes
Browning	Lady Geraldine, Selected Poems
Bryant	Selections
Bryant	Iliad
Bryant	Odyssey
Buehler	A Modern English Grammar
Byron	Childe Harold
Carlyle	Heroes and Hero Worship
Chaucer	Prologue to Canterbury Tales
De Quincey	De Quincey's Confessions
Dickens	A Tale of Two Cities
Emerson	American Scholar
Emerson	Fortunes of the Republic
Ewing	Jackanapes
Fernald	English Synonyms, etc.
Franklin	Antigone of Sophocles
Franklin	Autobiography
Gaskell	Cranford
Gayley	Classic Myths
Genung	Practical Rhetoric
Genung	Rhetorical Analysis
George	From Chaucer to Arnold
Goldsmith	She Stoops to Conquer
Goldsmith	Deserted Village
Guerber	Myths of Greece and Rome
Green	Short History of the English People
Hale	Longer English Poems
Hale	Man Without a Country
Hawthorne	Twice Told Tales
Hawthorne	Tales of the White Hills
Hawthorne	House of Seven Gables
Hawthorne and Lemmon	American Literature
Holmes	Selections from Breakfast Table Series
Irving	Life of Oliver Goldsmith
Irving	Alhambra
Irving	Selections from Sketch Book

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AUTHOR.	TITLE.
Irving	Tales of a Traveler
Kipling	The Jungle Book
Lamb	Essays from Elia
Lewis	First Book in English
Lockwood	Lessons in English
Longfellow	Hiawatha
Longfellow	Tales of a Wayside Inn
Macaulay	Earl of Chatham
Macaulay	Essay on Clive
Macaulay	Essay on Warren
Macaulay	Essays on Addison and Johnson
Macaulay	Masterpieces of British Literature
Macaulay	On Life of Samuel Johnson
Matthews	Introduction to American Literature
O'Neill	Punctuation
Palgrave	Golden Treasury
Palmer	Translation of the Odyssey of Homer
Parkman	Champlain and his Associates
Pattee	A History of American Literature
Poe	Poems and Tales
Poe	The Raven
Pope	The Iliad
Pope	Essay on Man
Potter	Alcestes of Euripides
Ruskin	Sesame and Lilies
Scott	Lady of the Lake
Scott	Woodstock
Shakespeare	A Midsummer Night's Dream (Rolfe)
Shakespeare	As You Like It (Longmann)
Shakespeare	Hamlet (Rolfe)
Shakespeare	Julius Cæsar (Rolfe)
Shakespeare	King John (Rolfe)
Shakespeare	King Henry IV (Part I) (Rolfe)
Shakespeare	King Henry IV (Part II) (Rolfe)
Shakespeare	King Henry V (Rolfe)
Shakespeare	King Lear (Rolfe)
Shakespeare	King Richard II (Rolfe)
Shakespeare	King Richard III (Rolfe)
Shakespeare	Macbeth (Rolfe)
Shakespeare	Merchant of Venice (Rolfe)
Shakespeare	Othello (Rolfe)
Shakespeare	Tempest (Rolfe)
Shakespeare	Twelfth Night (Rolfe)
Shaw	History of English Literature
Shelley & Keats	Selections
Socrates	Translation
Southworth	Composition and Grammar
Stevenson	Treasure Island

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AUTHOR.	TITLE.
Tappan	Topical Notes on American Authors
Taylor	Lars
Tennyson	Shorter Poems
Thackeray	The Newcomes
Warner	In the Wilderness
Webster	Academic Dictionary
Whitney & Lockwood	English Grammar
Whittier	Snowbound, Among the Hills, Songs of Labor
Wordsworth	Poetry of the People
Wordsworth	King Arthur Stories
Wordsworth	Robin Hood (Pyle Edition)
Wordsworth	Arabian Nights
Wordsworth	Don Quixote

FRENCH.

Text-Books:

About	Le Roi des Montagnes
Bacon	New French Course
Bacon	Une Semaine a Paris
Basin	Contes Choisis
Bowen, ed.	Modern French Lyrics
Bruce	Dictees Francaises
Bruce	Grammaire Francaise
Bruno	La Tour de France
Cameron	French Prose Composition
Chardenal	Complete French Course
Constanseau	French Dictionary
Corneille	Le Cid
Daudet	La Belle Nivernaise
Delbos	Le Bourgeois Gentilhomme
Desnoyers	Les Mesaventures de Jean-Paul Choppart
Dike	Scientific French Reader
Dumas	La Tulipe Noire
Dumas	Monte Cristo
Enault	Le Chien du Capitaine
Feuillet	Le Roman d'un Jeune Homme Pauvre
Foa	Le Petit Robinson de Paris
Francois	Advanced French Composition
Francois	Beginner's French
Francois	Introductory French Prose Composition
Francois & Giroud	Simple French
Fraser & Squair	French Grammar
Goodell	L'Enfant Espion
Grandgent	Prose Composition, Part I, based on L'Abbe Constantin

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AUTHOR.	TITLE.
Grandgent	Prose Composition, Part IV, based on La Derniere Classe
Grandgent	Prose Composition, Part V, based on La Pipe de Jean Bart
Guerber	Contes et Legendes
Halevy	L'Abbe Constantin
Heath	French-English and English-French Dictionary
Hennequin	Lessons in Idiomatic French
Hugo	Les Miserables
Hugo	Quatre-vingt-treize
Josselyn & Talbot	Elementary Reader of French History
Kimball	Materials for French Composition based on Colomba
La Bedolliere	La Mere Michel et Son
Labiche & Martin	Le Voyage de M. Perrichon
La Fontaine	Fables
Lamartine	Jeanne d'Arc
Larousse	Dictionnaire
Larousse	Gramnaire Complete
Loti	Pecheur d'Islande
Mairet	La Tache du Petit Pierre
Malot	Sans Famille
Mavigne & Gilson	French Sight Reading
Merimee	Colomba
Moliere	L'Avare
Moliere	Le Bourgeois Gentilhomme
de Musset	Histoire d'un Merle Blanc
Rogers	French Sight Reading
Sand	La Mare au Diable
Sandeau	Mlle. de la Seigliere
Sandeau	Sacs et Parchemins
Sarcey	Le Siege de Paris
Snow & Lebon	Easy French
Souvestre	Un Philosophe sous les Toits
Spiers & Surenne	French Dictionary
Super	French Reader
Theuriet	L'Abbe Daniel
Tuckerman	Simplicite
Verne	Tour du Monde en Quatre-vingt Jours
Worman	Grammaire Francaise

Supplementary Books:

Bercy	Le Francais Pratique
Bruce	French Selections for Sight Translation
Coppee	Le Luthier de Cremone et Le Tresor

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AUTHOR.	TITLE.
Duval	Petite Histoire de la Litterature Francaise
Erckmann-Chatrian	Le Conscrit de 1813
Fortier	Sept Grands Auteurs
Foucin	Le Pays de France
Hugo	La Chute
Kuhn	French Readings for Beginners
Labiche & Martin	La Poudre aux Yeux
Lavisse	La Deuxieme Annee d'Histoire de France
Legouve & Labiche	La Cigale chez les Fourmis
Mairet	L'Enfant de la Lune
Mariette	Half Hours of French Translation
Sand	La Famille de Germandre
Super	Anecdotes Faciles
Syms	Easy French Reader
Syms	Selected Letters of Madame de Sevigne
Syms	Le Chien de Brisquet
Talbot	Le Francaise et Sa Patrie
Topffer	La Bibliotheque de Mon Oncle
Zola	La Debacle

GERMAN.

Text-Books:

Arnold	Ein Regentag und dem Lande
Arnold	Fritz auf Ferien
Bacon	German Grammar for Beginners
Brandt	German Reader
Chamisso	Peter Schlemihl
Collar	Shorter Eysenbach
Dippold	Scientific German Reader
Erk	Liederschatz
Freytag	Aus dem Staat Freidrichs des Grossen
Freytag	Karl der Grosse
Fulda	Der Talisman
Goethe	Dichtung und Wahrheit
Goethe	Hermann und Dorothea
Guerber	Marchen und Erzahlungen
Hatfield	Materials for German Composition, based on Hoher als die Kirche
Heath	German Dictionary
Heine	Die Harzreise
Heyse	Er Soll Dein Herr Sein
Heyse	L'Arrabbiata
Huss	German Reader
Jagemann	German Prose Composition
Jagemann	German Syntax
Joynes & Wesselhoeft	German Lesson Grammar

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AUTHOR.	TITLE.
Kayser & Monteser	A Brief German Course
Kayser & Monteser	Foundations of German
Kayser & Monteser	German Grammar
Keller	Kleider machen Leute
Kohlrausch	Das Jahr 1813
Leander	Traumereien
Lessing	Minna von Barnhelm
Moltke	Die Beiden Freunde
Mondan	German Selections for Sight Translations
Muller & Wenckebach	Gluck Auf
Munchausen	Reisen
Pope	German Composition
Riehl	Der Fluch der Schonheit
Schiller	Thirty Years' War (Book III)
Schiller	Wilhelm Tell
Stolze	Bunte Geschichten
Seidel	Die Monate
Seidel	Leberecht Huhnchen
Spanhoofd	Deutsche Grammatik
Stifter	Das Heidedorf
Storm	Geschichten aus der Tonne
Storm	Immensee
Thomas	German Grammar
Tuckerman	Am Anfang
Von Hillern	Hoher als die Kirche
Von Schiller	Der Neffe als Onkel
Vos	Essentials of German
Vos	Materials for German Conversation
Wenckebach, ed.	Die Schonsten Deutschen Lieder
Wildenbruch	Das Edle Blut

Supplementary Books:

Auerbach	Brigitta
Bacon	Im Vaterland
Baumbach	Das Habichtsfraulein
Baumbach	Der Schweigersohn
Baumbach	Im Zwielicht
Benedix	Nein
Bernhardt	Novelletten Bibliothek
Bernhardt	Stille Wasser
Burwirth	Words of Frequent Occurrence
Ebner-Eschenbach	Krambambuli
Ernst	Flachsmann als Erzieher
Freytag	Aus dem Jahrhundert des Grossen Krieges

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AUTHOR.	TITLE.
Frommel	Eingeschneit
Gerstacker	Germelshausen
Gore	German Science Reader
Groller	Inkognito
Heyse	Anfang und Ende
Heyse	Das Madchen von Treppi
Keller	Bilder aus der Deutschen Litteratur
Lessing	Nathan der Weise
Meissner	Aus Meiner Welt
Mosher	Der Bibliotekar
Mosher	Willkommen in Deutschland
Riehl	Burg Neideck
Spyri	Rosenresli (ed. Boll)
Sudermann	Teja
Zschokke	Der zerbrochene Krug

HISTORY.

Text-Books:

Andrews	A History of England
Ashley	American Government
Botsford	A History of Greece
Botsford	A History of Rome
Bryce	American Commonwealth
Channing	Student's History of the United States
Cheyney	History of England
Emerton	Introduction to the Middle Ages
Fiske	Civil Government in the United States
Guitteau	Government and Politics in the U. S.
James & Sanford	Government in State and Nation
Mackenzie	The Nineteenth Century
McLaughlin	American Nation
Montgomery	Leading Facts in English History
Morey	Outlines of Roman History
Muzzey	American History
Myers	Ancient History
Myers	General History
Myers	Greece
Myers	Mediæval and Modern History
Myers	Middle Ages
Myers	Modern Age
Myers	Rome; Its Rise and Fall
Oman	A History of Greece
Robinson & Beard	Development of Modern Europe
Walker	Political Economy
West	Modern History
Woodburn & Moran	American History and Government
Wrong	History of the British Nation

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Supplementary Books:

AUTHOR.	TITLE.
Adams	European History
Barnes	General History
Botsford	Ancient History for Beginners
Church	Greek Life and Story
Church	Stories from Herodotus
Church	Stories of the Persian Wars
Cranch	Vergil's Eneid
Dawes	How We are Governed
Fisher	Outlines of Universal History
Fiske	History of the United States
Goodspeed	History of the Ancient World
Hart	Source Book of American History
Johnston	History of the United States
Larned	History of England
Monro	Middle Ages
Sheldon	General History
Wilson	The State
Witt	Retreat of the Ten Thousand
Wright	Industrial History of the United States

MATHEMATICS.

Text-Books:

Atwood	Exercises in Algebra
Collins	Practical Algebra, First Year Course
Gore	Plane and Solid Geometry
Hawkes, Luby & Touton	First Course in Algebra
McCurdy	Exercise Book in Algebra
Merriman	Strength of Materials
Robbins	Plane Geometry
Robbins and Somerville	Exercises in Algebra
Schultz	Elementary Algebra
Schultze & Sevenoak	Plane Geometry
Slaught & Lennes	High School Algebra
Wells	New Higher Algebra
Wells	Plane Trigonometry with Tables
Wentworth	Elements of Algebra
Wentworth	Plane and Solid Geometry
Wentworth	Plane and Spherical Trigonometry

Supplementary Books:

Bailey & Woods	Analytic Geometry
Crawley	Elements of Trigonometry
Crawley	Table of Logarithms
Estill	Numerical Problems in Plane Geometry
Fine	College Algebra
Fisher & Schwatz	Quadratics and Beyond

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AUTHOR.	TITLE.
Hall & Knight	Algebraical Exercises and Examination Papers
Hawkes	Advanced Algebra
Holton	Shop Mathematics
Jones	Drill Book in Algebra
Leighton	Harvard Examination Papers
Longmans	School Mensuration
Longmans	Four Place Log. Tables
Phillips & Strong	Elements of Trigonometry
Phillips & Strong	Trigonometry with Tables
Sheperd	Problems in Strength of Materials
Wells	Algebra for Secondary Schools
Wells	College Algebra
Wells	Plane and Solid Geometry
Wells	New Plane and Spherical Trigonometry
Wells	Logarithmic Tables
Wentworth	Arithmetic Problems
Wentworth	College Algebra
Wentworth	Geometrical Exercises

SCIENCE.

Text-Books:

Atkinson	First Studies in Plant Life
Bailey	Beginner's Botany
Bergen	New Botany (Principles of Botany)
Bergen & Davis	Laboratory and Field Manual of Botany
Brownlee	First Principles of Chemistry
Carhart & Chute	High School Physics
Colton	Physiology
Comstock	Astronomy
Conn	Bacteria, Yeasts, and Molds in the Home
Cooley	Student's Manual of Physics
Davis	Physical Geography
Dryer	Lessons in Physical Geography
Eddy	Text Book in General Physiology
Fairbanks	Physiography
Forman	Advanced Physics
Hall & Bergen	Physics
Harris	Chemical Analysis
Hessler & Smith	Essentials of Chemistry
Higgins	Lessons in Physics
Hough & Sedgwick	Elements of Hygiene and Sanitation
Irish	Qualitative Analysis
Jackson	An Elementary Book on Electricity and Magnetism
Jones	Heat, Light, and Sound

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AUTHOR.	TITLE.
Miller	Progressive Problems in Physics
Milliken & Gale	First Course in Physics
Morgan and Lyman	Chemistry
Newell	Descriptive Chemistry
Newell	Experimental Chemistry
Norton	Food and Dietetics
Osterhout	Experiments with Plants
Peabody	Studies in Physiology
Pierce	Problems in Elementary Physics
Smith	General Chemistry for Colleges
Tarr	New Physical Geography
Todd	New Astronomy
Wentworth & Hill	Text-Book of Physics
Wilson	Laboratory Manual in Astronomy

Supplementary Books:

Adams	Laboratory Manual
Appleton	Handbook of Chemistry
Appleton	School Physics
Atkinson	Lessons in Botany
Avery	School Physics
Bailey	Lessons with Plants
Byrd	A Laboratory Manual in Astronomy
Coit	Chemical Arithmetic
Colton	Practical Zoology
Cooley	Student's Manual of Physics
Coulter	Plant Relations
Coulter	Plant Structures
Dana	Minerals and How to Study Them
Dobbin & Walker	Chemical Theory for Beginners
Gage	Principles of Physics
Gillett & Rolfe	Astronomy
Gray	Botany
Harris	Qualitative Analysis
Henderson & Woodhull	Elements of Physics
Hortvet	Elementary Practical Physics
Johnston	Chemistry of Common Life
LeConte	Compend of Geology
Lockyer	Astronomy
Lodge	Elements of Mechanics
Martin	The Human Body
Noyes	Qualitative Chemical Analysis
Olsen	Pure Foods
Orton	Comparative Zoology
Peabody and Hunt	Elementary Plant Biology
Perkin & Lean	Introduction to Study of Chemistry
Remsen	Chemistry—Briefer Course

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AUTHOR.	TITLE.
Remsen & Randall	Chemical Experiments
Richards	Chemistry of Cooking and Cleaning
Sabine	Laboratory Course in Physical Measurements
Seller	Qualitative Chemical Analysis
Thompson	A Nature Calendar
Tracey	Anatomy, Physiology and Hygiene
Walters	Physiology and Hygiene
Williams	Elements of Chemistry
Young	Lessons in Astronomy

ART.

Hamlin	History of Architecture
Van Dyke	History of Painting

MUSIC.

Dann	School Hymnal
Tomlins	The Laurel Song Book
Tupper	First Year Harmony
Tupper	Student's Hymnary

MECHANICAL DRAWING.

Text-Books:

Atkinson, Mentzer, and Grover	Mechanical Drawing for High Schools, Part I
Hoffman	Elementary Machine Design
Mathewson	Notes for Mechanical Drawing

COMMERCIAL DEPARTMENT.

Text-Books:

Adams	Commercial Geography
Barnes	Complete Typewriting Instructor
Belding	Commercial Correspondence
Bullock	Introduction to Study of Economics
Coman	Industrial History of United States
Eldredge	Shorthand Dictation Exercises
Ellis	Practical Bookkeeping
Gano	Commercial Law
Gilbert & Brigham	Introduction to Physical Geography
Mills	Modern Business Penmanship
Moore	Commercial Arithmetic
Packard	New Commercial Arithmetic
Pitman	Course in Isaac Pitman Shorthand

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AUTHOR.	TITLE.
Pitman	Progressive Dictator
Redway	Commercial Geography
Webster	General History of Commerce
Williams & Rogers	New Practical Grammar and Correspondence
Williams & Rogers	Business Correspondence
Williams & Rogers	Seventy Lessons in Spelling
Williams & Rogers	Test Questions in Commercial Law
Supplementary Books:	
Clow	Introduction to Study of Commerce
Gonner	Commercial Geography
Smith	Proof Reading and Punctuation
Thurston	Economics and Industrial History
Webster	Little Gem Dictionary
Willoughby	Rights and Duties of American Citizenship

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LOCATION OF PUBLIC SCHOOLS.

WITH THE AREA OF THEIR LOTS AND THE TERRITORIAL BOUNDARIES OF THE DISTRICTS.

CENTRAL HIGH SCHOOL.—On the south side of State street, between School and Maple streets. Area of lot, 80,114 square feet.
District: The whole city.

HIGH SCHOOL OF COMMERCE.—In Central High School building.
District: The whole city.

TECHNICAL HIGH SCHOOL.—On the east side of Elliott street. Area of lot, 61,700 square feet.
District: The whole city.

VOCATIONAL SCHOOL.—36 Taylor street (rented).

OPEN-AIR SCHOOL.—On the west side of Chestnut street, between Harriet and Cumberland streets.
District: The whole city.

ACUSHNET AVENUE PRIMARY AND GRAMMAR SCHOOL.—On the east side of Main street, corner of Acushnet avenue. Area of lot, 18,850 square feet.

For primary grades, this district is bounded on the north by Whitney avenue, Fremont and Central streets (not including these streets); on the east by the Central street district; on the south by Mill river.

For grades IV. and V., the northern boundary of this district is Fremont and Central streets (including them); on the east and south the same as for primary grades. South street is also included in this district.

ALDEN STREET PRIMARY SCHOOL.—Alden street, near the junction of Walnut and Hancock streets. Area of lot, 18,767 square feet.

This district, on the east, commences at the junction of Mill and Walnut streets, extends along Walnut to Florence, along Florence (not including it) to Hancock, Hancock to Ashley, Ashley to Cedar, Cedar to Lebanon (from Nos. 11-101), James, Queen, King (Nos. 12-144),

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Lebanon place, Hancock, Alden (from Walnut to Nos. 78 and 85 not inclusive), Greene (Nos. 17-44).

This district also includes the territory bounded by Hancock, Florence, Walnut, and Hickory streets (including these streets, except Florence); also Cottage avenue.

ARMORY STREET PRIMARY AND GRAMMAR SCHOOL.—On the west side of Armory street a short distance north of its junction with Liberty street. Area of lot, 131,860 square feet.

This district is bounded on the south by the Boston and Albany railroad, on the west by Cass street (including it from Linden to Liberty street). No northern and eastern boundaries are fixed.

BARROWS GRAMMAR SCHOOL.—On the southeast corner of Oak and Tyler streets, near the junction of Oak and Walnut streets. Area of lot, 37,637 square feet.

Children of grades V. to VII. residing in the Strickland and East Union street school districts attend this school.

The southern boundary line of this district extends from Pine street along Cedar and Lebanon (not including the last two) to Hancock, thence along Hancock street to Alden street, and along Alden street (not including it) easterly to Watershops pond. Colton street is also included in this district.

All the streets mentioned above are included in this district, except when otherwise stated.

Pupils of grade VII. residing in the section of the Tapley school district east of Florida street and north of St. James avenue (including it) may attend the Barrows school.

BOSTON ROAD PRIMARY AND GRAMMAR SCHOOL.—On the north side of Boston road, a little east of Jasper street, about four miles from Court Square. Area of lot, 43,560 square feet.

BRIGHTWOOD PRIMARY AND GRAMMAR SCHOOL.—At Brightwood, northeast corner of Plainfield street and Talcott avenue. Area of lot, 32,646 square feet.

This district includes the village of Brightwood. The eastern boundary is the Boston and Maine railroad. The southern boundary is Lowell and Plainfield streets to the railroad, including Lowell street.

BUCKINGHAM GRAMMAR SCHOOL.—On the southeast corner of Eastern avenue and Wilbraham road near Winchester Park. Area of lot, 37,114 square feet.

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This district is bounded on the north by St. James avenue from the Boston and Albany railroad to Florida street. On the west the line extends from St. James avenue along Florida street (not including it) to Bay street, along Bay and Pleasant streets (not including them) to State street; thence through the middle of State street to Hancock, along Hancock (not including it) to Monroe; along Monroe to the railroad.

East of the New England railroad, for grades VI. to IX., inclusive, this district includes the territory from Bay to King streets, inclusive.

Pupils of grades VIII. and IX. residing in that part of the Barrows school district bounded by Wilbraham road, Eastern avenue, and Beacon street (including these streets) attend this school. Pupils in grades VIII. and IX. residing in the Boston Road district attend this school.

CAREW STREET PRIMARY AND GRAMMAR SCHOOL.—On the south side of Carew street, near Main street. Area of lot, 36,000 square feet.

This district is bounded on the north by Sargeant, Carew, and Arbor streets (including them); on the east by Cass street north of Linden (including it). Thence the boundary line extends along Linden to Chestnut street and down Chestnut to Tenth street, through Tenth and Vine streets (including them). The western boundary is the Boston and Maine railroad.

Pupils of grades I. to V., inclusive, residing on Emery and Clinton streets attend this school.

CENTRAL STREET PRIMARY AND GRAMMAR SCHOOL.—Corner of Central and Spruce streets. Area of lot, 49,154 square feet.

The northern boundary line of this district extends from Maple street along Central to Cedar, along Cedar and Lebanon to Hancock, along Hancock (not including it) to Alden, along Alden street easterly (including the streets mentioned except where otherwise stated); on the west the line extends from the junction of Maple and Central streets, along by the foot of the hill west of Maple street to Locust street; on the south by Mill river from Locust street to Allen street, no boundary being fixed for the eastern side of the district. This district also includes Madison avenue and Sterns terrace.

Mill street and the easterly half of Central street, between Main and Maple streets, is regarded as belonging to Central street district for those who prefer it on account of its nearness.

Pupils of grades I. to IV., inclusive, residing in that part of the Alden street district which lies within the boundaries of the Central street district attend the Alden street school.

Pupils of grades I. to V., inclusive, residing in that part of the Eastern

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avenue district which lies within the boundaries of the Central street district attend the Eastern avenue school.

CHARLES STREET PRIMARY SCHOOL.—On the north side of Franklin street, opposite Charles street. Area of lot, 9,951 square feet.

This district is bounded on the north by Tenth street (not including it); on the east by Cass street, south of Linden, Webster, and Vinton streets, and Liberty street west of Webster street (including them); on the south by the Boston and Albany railroad; on the west by a line cutting Greenwood and Franklin streets at Nos. 93 and 94 (not including them), Congress street east of Nos. 58 and 59 (including them), and by Chestnut street from Tenth street to the Boston and Albany railroad.

The district includes Cass street south of Linden, Webster, Vinton, Liberty street west of Webster, Chestnut street south of Tenth and north of the Boston and Albany railroad. It also includes Greenwood and Franklin streets east of Nos. 93 and 94 (not including these numbers), and Congress street east of Nos. 58 and 59 (including them).

CHESTNUT STREET GRAMMAR SCHOOL.—On the east side of Chestnut street, near Prospect street. Area of lot, 138,794 square feet.

This district includes all the territory in the northern part of the city, the southern boundary being the Boston and Albany railroad.

Pupils of grades VI. and VII. residing in those parts of this district which are included in the Lincoln, Worthington street, and Armory street districts attend the latter schools.

EASTERN AVENUE PRIMARY AND GRAMMAR SCHOOL.—On the corner of Eastern avenue and Alden street. Area of lot, 27,720 square feet.

This district is bounded on the north by King street, from Nelson avenue to its easterly terminus; on the west by Nelson avenue from King to Greene street, thence the boundary line extends along Greene street to Eastern avenue, along Eastern avenue to Manhattan, along Manhattan to Walnut, along Walnut to Hickory, along Hickory east, no easterly boundary being fixed for the district. All the foregoing streets, except Walnut, are included in this district, as also Alden street east of and including Nos. 78 and 85. Cottage avenue is not included in this district.

For grades IV. and V., this district includes Lebanon place, Lebanon street (between Nelson avenue and Hancock street), and Hancock street between King and Alden streets.

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EAST UNION STREET PRIMARY SCHOOL.—On the north side of Union street, between Hancock street and Eastern avenue. Area of lot, 25,779 square feet.

The boundary line of this district extends from State street along Hancock street to Monroe street, along Monroe street to Eastern avenue, thence along Eastern avenue to Wilbraham road, along Wilbraham road to the railroad, along the railroad to King street, along King street (not including it) to Hancock street, and along Hancock to State street before mentioned, including all the streets mentioned except where otherwise stated.

FOREST PARK GRAMMAR SCHOOL.—On Garfield street, off Belmont avenue. Area of lot, 118,960 square feet.

All the children of grades VI. to IX. living in the Sumner avenue and Kensington avenue school districts, and all children of grades VII. to IX. living in the White street school district, will attend this school.

HOMER STREET PRIMARY AND GRAMMAR SCHOOL.—On Homer street, between State street and Wilbraham road. Area of lot, 52,200 square feet.

This district is bounded on the west by the New England railroad, except that Cambridge street, Dawes street, Andrew street north of Burr, and Burr street between Cambridge and the New England railroad, are not included in this district; on the north by Bay street (including it); on the south by the Eastern avenue district, no boundary being fixed for the eastern side of the district.

HOOKER PRIMARY AND GRAMMAR SCHOOL.—On the east side of Main street, between Tenth and Greenwood streets. Area of lot, 33,411 square feet.

This district is bounded on the north by Tenth and Vine streets (not including them); on the east by a line cutting Greenwood and Franklin streets at Nos. 93 and 94 (including them), Congress street at Nos. 58 and 59 (not including them), Sharon street at Nos. 135 and 136 (not including them), Ferry street at Nos. 169 and 172 and Liberty street at No. 76 (including them); on the south by the Boston and Albany railroad; on the west by Fulton street from Vine street to Cypress street (not including Clinton and Emery streets); Main street from Tenth street to the arch is included in this district.

For grades IV. and V., this district is bounded on the east by Chestnut street between Tenth and Sharon streets.

This district includes Congress street in grades IV. and V.

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This district includes pupils of grades I. to III., inclusive, living south of the Boston and Albany railroad, west of Main street, and north of Bridge street (not including it).

HOWARD STREET PRIMARY AND GRAMMAR SCHOOL.—On the south side of Howard street. Area of lot, 51,029 square feet.

This district is bounded on the north by Bridge street (not including it between Main and Chestnut streets); on the east by Chestnut and Maple streets (not including these streets) from Bridge street to Cross street; on the south by Cross and Howard streets.

Children of grades VI. and VII. living in the Acushnet avenue school district and children of grades IV.A to VII. living in the William street school district also attend this school.

All the streets mentioned above are included in this district, except when otherwise stated.

Mill street and the easterly half of Central street, between Main and Maple streets, is regarded as belonging to Central street district for those who prefer it on account of its nearness.

INDIAN ORCHARD PRIMARY AND GRAMMAR SCHOOL.—At the corner of Worcester and Myrtle streets, Indian Orchard village. Area of lot, 40,736 square feet.

This district includes the village of Indian Orchard, except that for primary grades it includes only the section west of Cedar street.

INDIAN ORCHARD PRIMARY SCHOOL.—Main street, Indian Orchard village. Area of lot, 22,500 square feet.

This district includes that part of the village (for primary grades only) lying east of Cedar street (not including it).

JEFFERSON AVENUE PRIMARY AND GRAMMAR SCHOOL.—On the south side of Jefferson avenue, corner of North street. Area of lot, 21,079 square feet.

This district is bounded on the north by Calhoun and Huntington streets (including them); on the west by the Boston and Maine railroad; on the south by Sargeant and Carew streets (not including them), no eastern boundary being fixed for this district.

KENSINGTON AVENUE PRIMARY AND GRAMMAR SCHOOL.—On the south side of Kensington avenue, between Earl and Oakland streets. Area of lot, 90,418 square feet.

This district is bounded on the north by Mill river and on the south by Forest Park. The eastern boundary line extends from Mill river

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along White street to Pasadena street, along Pasadena street to Alderman street, along Alderman street to Ventura street, along Ventura street to Sumner avenue, along Sumner avenue to Dickinson street, and along Dickinson street to Longmeadow line.

The western boundary line extends from Mill river along Fort Pleasant avenue and Forest Park avenue to Forest Park; exclusive of Belmont avenue from No. 176 to Mill street; Woodside terrace, Leyfred terrace, and Blake hill; also the area bounded by Garfield street, Churchill street, Sumner avenue, and Forest Park avenue.

LINCOLN PRIMARY AND GRAMMAR SCHOOL.—On the west side of Chestnut street, between Harriet and Cumberland streets. Area of lot, 94,090 square feet.

This district is bounded on the west by the Boston and Maine railroad; on the south by Calhoun and Huntington streets (not including them), no boundaries being fixed for the northern and eastern sides of this district.

Pupils of grades V. to VII. living in the Brightwood district attend this school.

SCHOOL STREET PRIMARY AND GRAMMAR SCHOOL.—Southeast corner of School and High streets. Area of lot, 86,156 square feet.

This district is bounded on the north by Pearl street (not including it), and by State from Byers street to Walnut street; on the west by Chestnut and Maple streets, from Pearl to Avon place; on the south by Avon place, Mulberry and Union streets to Walnut, and on the east by Walnut street (not including it), including the streets mentioned, except when otherwise stated.

STATE STREET GRAMMAR SCHOOL.—On the south side of State street, west of the Central high school. Area of lot, 30,778 square feet.

This school is for pupils of grades VIII. and IX. only, residing in the Barrows, Howard street, and that part of the Worthington street district south of the railroad, and in that part of the Tapley district east of Florida street and north of St. James avenue (including it). Pupils of grades VII., VIII., and IX., residing in the School street district, also attend this school.

STRICKLAND PRIMARY AND GRAMMAR SCHOOL.—On the southwest corner of Oak and Union streets. Area of lot, 6,050 square feet.

This district is bounded on the north by the Boston and Albany railroad. The eastern boundary extends from the railroad to Florida

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street, and along Florida street (not including it) to Bay street, along Bay and Pleasant streets (not including them) to State street, thence through the middle of State street to Hancock street, and along Hancock (not including it) to King street. On the south the district is bounded by King and James streets (not including them); on the west the line extends from the railroad to Federal street, along Federal and Walnut streets (including them) to Pine street, and along Pine street (including it) to Cedar street.

SUMNER AVENUE PRIMARY AND GRAMMAR SCHOOL.—On the south side of Sumner avenue between Beechwood avenue and Long Hill street. Area of lot, 85,300 square feet.

This district is bounded on the north by Mill river; on the east the boundary line extends along Belmont avenue from Mill street to No. 176, inclusive, and continuing along Belmont avenue to Garfield street (not including this latter section of Belmont avenue), along Garfield street to Churchill street, along Churchill street to Sumner avenue (including these two streets); on the south by Forest Park and by Sumner avenue (between Churchill street and Forest Park avenue). In addition, the district shall include Woodside terrace, Leyfred terrace, and Blake hill.

Children of kindergarten age living in the section bounded by Churchill street, Garfield street, Belmont avenue, Dickinson street (from Belmont avenue to Forest Park), and Forest Park, and also children living on Mill street (from Locust street to Pine street) may attend the Sumner avenue school at the option of their parents, and children from these sections who are regular attendants of the Sumner avenue kindergarten will be enrolled as pupils of the school upon their promotion to first grade. If there is room for them, children from these sections applying for admission to grades above the first will be enrolled in the school, with the understanding that they will be transferred to their own particular districts as soon as the grade is filled by pupils residing within the Sumner avenue school district.

TAPLEY PRIMARY AND GRAMMAR SCHOOL.—On the southwest corner of Bay and Sherman streets. Area of lot, 45,083 square feet.

This district is bounded on the north by the Boston and Albany railroad. On the west the line extends from the railroad to Florida street, and along Florida street (including it) to Bay street. Thence the line extends through Bay and Pleasant streets (including them) to State street, thence along State street (including it, except the south side between Stebbins and Hancock streets) to the New England railroad

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(including Winchester and Hawley streets). This district is bounded on the east by the New England railroad, except that Cambridge street, Dawes street, Andrew street north of Burr, and Burr between Cambridge and the New England railroad, are included in this district.

WHITE STREET PRIMARY AND GRAMMAR SCHOOL.—On the west side of White street between Dawson avenue and Buckler street. Area of lot, 100,000 square feet.

This district is bounded on the north by the Watershops pond; on the west the boundary line extends from the Watershops pond along White street to Pasadena street, along Pasadena street to Alderman street, along Alderman street to Ventura street, and along Ventura street to Sumner avenue, along Sumner avenue to Dickinson street, along Dickinson street to the Longmeadow line. On the south this district is bounded by Longmeadow, no eastern boundary being fixed.

WILLIAM STREET PRIMARY SCHOOL.—On the south side of William street between Main and Water streets. Area of lot, 35,701 square feet.

This district is bounded on the north by Howard and Cross streets (not including them); on the east by Maple street (not including it); and on the south by Whitney avenue, Fremont, and Central streets, including these streets.

WORTHINGTON STREET PRIMARY AND GRAMMAR SCHOOL.—On the south side of Worthington street, east of Spring street. Area of lot, 38,500 square feet.

This district includes, north of the Boston and Albany railroad, pupils of grades I. to VII., inclusive, living on Sharon street east of Nos. 135 and 136 (including them); on Ferry street east of Nos. 169 and 172 (not including it); and on Liberty street at No. 76 (not including it) and Chestnut street. It also includes pupils of grades IV. to VII., inclusive, living on Chestnut street south of Sharon street.

On the south side of the Boston and Albany railroad, the boundary line for grades I. to VII., inclusive, extends along the Connecticut river to Bridge street, along Bridge street to Chestnut, including Bridge street only from Main to Chestnut; thence along Chestnut to Pearl, along Pearl to Federal, and along Federal to the Boston and Albany railroad, all the streets named being included.

Pupils of grades I. to III., inclusive, residing in that portion of the Worthington street school district west of Main street and south of the Boston and Albany railroad attend the Hooker school.

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DRY BRIDGE UNGRADED SCHOOL.—On St. James circle near St. James avenue. Area of lot, 11,434 square feet.

FIVE MILE POND UNGRADED SCHOOL.—At Dimmock's Corner, on the Boston road about five miles from Court Square. Area of lot, 18,887 square feet. (Closed.)

GLENWOOD UNGRADED SCHOOL.—On the north side of Springfield street, near its junction with Armory street, and near the Chicopee line. Area of lot, 43,656 square feet.

SIXTEEN ACRES UNGRADED SCHOOL.—Near Sixteen Acres pond, and near the junction of North Wilbraham road with the road leading from Ludlow to East Longmeadow, about six miles from Court Square. Area of lot, 15,056 square feet.

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STATISTICS OF THE

SPRINGFIELD HIGH SCHOOLS.

CENTRAL HIGH SCHOOL

FROM ITS ORGANIZATION IN 1849 TO 1912.

YEAR.	Number of Pupils.	Number of Graduates.	YEAR.	Number of Pupils.	Number of Graduates.
1849	158		1881	372	46
1850	170		1882	346	44
1851	185		1883	322	42
1852	159		1884	322	49
1853	170		1885	348	34
1854	176		1886	379	43
1855	186		1887	372	61‡
1856	166	9*	1888	370	52
1857	156	14	1889	344	61
1858	172	14	1890	345	45
1859	166	17	1891	391	56
1860	173	25	1892	408	52
1861	163	13	1893	429	53
1862	177	17	1894	468	53§
1863	174	15	1895	483	51
1864	162	5	1896	484	58
1865	146	21	1897	525	86
1866	137	10	1898	569	83
1867	148	13	1899	622	70
1868	195	16	1900	657	124
1869	217	2†	1901	704	84
1870	207	14	1902	751	103
1871	181	19	1903	763	111
1872	172	24	1904	890	120
1873	185	21	1905	975	133
1874	201	20	‖1906	677	158
1875	246	16	1907	622	130
1876	336	33	1908	641	112
1877	354	27	1909	771	132
1878	407	51	1910	767	120
1879	426	54	1911	813	91
1880	405	58	1912	831	118

TECHNICAL HIGH SCHOOL.¶

1899	18		‖1906	624	14
1900	61		1907	675	66
1901	77	2	1908	787	78
1902	90	3	1909	928	65
1903	120	16	1910	1,051	88
1904	162	18	1911	669	60
1905	180	18	1912	791	52

HIGH SCHOOL OF COMMERCE.

1911	480	40	1912	547	69

*Previous to this date there were no graduating exercises.
†The course was changed this year from three to four years.
‡This was the first year that any pupils were graduated in the two years' Business Course.
§The Business Course was abolished after 1894.
¶The Technical High School was organized in August, 1898.
‖Commercial Department transferred from Central High to Technical High in September, 1906.

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TABLE SHOWING THE GRADUAL DROPPING OUT OF PUPILS IN THE VARIOUS GRADES.

NUMBER OF PUPILS IN EACH GRADE.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	Freshman.	Sophomore.	Junior.	Senior.	Post Grad.
January, 1891,	1234	766	681	577	511	403	295	260	221					
January, 1892,	1307	893	841	541	522	468	327	245	222					
January, 1893,	1311	1013	918	648	483	477	350	236	230					
January, 1894,	1434	990	996	659	584	505	342	238	248					
September, 1894,	1618	936	1030	795	640	530	350	266	250	174	154	69	63	
September, 1895,	1539	1053	1035	794	724	513	445	277	263	177	126	96	65	
September, 1896,	1723	1020	1180	817	785	621	460	283	258	204	118	86	104	
September, 1897,	1731	1134	1211	980	789	754	474	381	274	206	159	93	88	15
September, 1898,	1775	1145	1287	965	875	657	635	382	299	227	159	123	80	22
September, 1899,	1789	1174	1243	1029	952	786	559	486	380	243	174	130	114	13
September, 1900,	1717	1068	1294	1107	904	884	621	463	380	293	206	142	83	28
September, 1901,	1717	1265	1226	1152	1024	892	759	548	378	296	212	168	104	26
September, 1902,	1685	1297	1276	1088	1135	903	768	655	416	316	214	179	124	27
September, 1903,	1773	1319	1180	1341	1072	986	799	633	464	390	260	172	132	18
September, 1904,	1610	1314	1265	1260	1025	984	912	639	478	433	335	207	121	26
September, 1905,	1663	1293	1271	1266	1140	977	881	661	560	350	248	229	132	16
September, 1906,	1484	1375	1267	1249	1151	1025	941	712	514	509	338	236	185	16
September, 1907,	1566	1348	1283	1221	1203	1059	970	792	593	464	353	272	176	16
September, 1908,	1679	1515	1225	1339	1134	1164	974	914	650	584	363	292	192	38
September, 1909,	1850	1395	1352	1264	1176	1122	995	924	741	638	409	299	225	35
September, 1910,	1774	1404	1402	1303	1200	1148	1052	863	761	694	455	338	181	37
September, 1911,	1731	1543	1373	1347	1300	1076	1058	926	716	729	492	366	226	25
September, 1912,	1968	1397	1465	1311	1352	1189	1035	949	808	696	536	405	238	21

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EXPENDITURES, SCHOOL POPULATION, AND ENROLLMENT.

From the Organization of the City in 1852 to 1912.

From 1852 to 1856 expenditures for repairs were included in current expenses.
The Manual Training School was established in 1886 (reorganized as the Mechanic Arts High School in 1898); the Cooking School in 1893; and the public Kindergarten in 1894. The amounts expended under these heads are included under "Current Expenses."

Year.	Current Expenses.	Repairs and Alterations.	New Buildings.	School Census.	Enrollment.	Aver. No. Belonging.
1852	$6,558 89	.....	.....	2,188	2,270	1,549
1853	13,257 31	.....	.....	2,253	2,273	1,642
1854	15,049 89	.....	.....	2,449	2,561	1,621
1855	16,451 22	.....	.....	2,611	2,409	1,769
1856	17,501 08	.....	.....	2,606	2,441	1,815
1857	18,737 67	$4,146 81	$6,403 47	2,525	2,459	1,824
1858	18,494 40	3,144 54	671 00	2,675	2,569	1,862
1859	18,315 77	2,939 82	1,553 16	2,505	2,546	1,855
1860	18,115 04	3,532 04	.....	2,472	2,594	1,934
1861	17,961 30	2,956 24	.....	2,688	2,752	1,959
1862	19,356 08	2,601 92	.....	3,090	3,027	2,133
1863	22,261 56	939 55	.....	3,341	3,808	2,342
1864	29,941 54	5,662 30	10,645 00	3,709	3,753	2,296
1865	37,242 93	5,516 10	53,969 78	3,713	3,822	2,490
1866	48,542 28	5,728 90	59,062 72	3,846	3,675	3,187
1867	54,423 56	3,718 32	41,267 84	4,225	3,760	3,266
1868	66,544 60	7,529 04	62,270 59	4,141	4,029	3,304
1869	68,524 83	7,778 57	34,286 49	4,156	4,617	3,509
1870	73,636 97	4,627 70	12,444 57	4,282	4,679	3,822
1871	79,489 26	4,096 28	28,490 00	4,167	4,901	3,717
1872	92,286 88	5,086 27	71,202 63	4,331	4,853	3,674
1873	98,389 77	16,769 80	53,095 82	4,399	5,238	3,900
1874	110,095 43	16,545 76	69,979 01	4,712	5,448	4,071
1875	115,786 04	21,958 95	17,098 73	5,068	5,743	4,296
1876	106,949 96	5,221 48	.....	5,408	5,840	4,481
1877	89,489 74	2,938 91	.....	5,375	5,877	4,615
1878	83,067 02	1,708 02	.....	5,379	5,625	4,298
1879	81,780 65	2,528 04	.....	5,524	5,636	4,475
1880	83,053 74	7,497 14	1,169 69	5,865	5,834	4,538
1881	88,287 73	9,240 86	.....	6,285	5,981	4,667
1882	92,061 39	9,088 23	.....	6,452	6,054	4,727
1883	96,694 26	10,672 68	17,228 99	6,568	6,070	4,661
1884	107,523 95	10,159 73	7,664 96	6,583	5,520	4,327
1885	111,551 90	7,490 23	1,636 17	6,330	5,665	4,517
1886	109,900 53	7,021 26	.....	6,472	5,813	4,648
1887	115,749 65	9,399 94	19,053 56	6,516	5,841	4,643
1888	124,739 06	9,348 20	30,712 40	6,416	5,922	4,647
1889	134,998 12	9,314 65	39,072 98	6,935	6,165	4,982
1890	146,488 62	16,206 53	48,943 67	7,054	6,455	5,180
1891	157,644 68	17,630 70	76,052 19	7,134	6,467	5,217
1892	163,570 40	10,447 96	13,829 18	7,318	6,970	5,585
1893	173,398 48	11,549 10	26,314 01	7,716	7,225	5,799
1894	184,892 41	10,995 75	46,562 87	8,002	7,637	6,340
1895	198,620 20	13,647 77	26,758 82	8,041	8,304	6,810
1896	219,531 84	8,911 17	43,878 11	8,307	8,717	7,266
1897	239,679 72	16,095 66	238,196 30	8,814	9,488	7,869
1898	262,972 39	38,881 78	363,949 04	9,202	10,044	8,260
1899	302,854 35	12,706 09	71,783 82	9,738	10,786	9,072
1900	321,804 66	11,437 20	81,698 41	10,251	11,261	9,300
1901	330,677 59	24,020 85	94,340 94	10,405	11,574	9,612
1902	351,980 63	13,167 69	96,268 67	10,899	12,162	10,206
1903	359,217 47	15,438 28	100,385 33	11,490	12,542	10,290
1904	399,259 63	17,947 82	87,274 88	11,738	12,842	10,818
1905	409,821 51	18,216 94	256,946 05	*13,059	13,161	11,183
1906	445,208 90	20,671 47	149,771 35	*13,359	13,601	11,372
1907	469,824 73	21,532 30	122,727 70	*13,786	13,796	11,516
1908	512,627 92	25,613 77	139,180 18	*14,091	14,451	12,378
1909	537,118 63	26,425 33	46,449 47	*14,335	14,968	12,808
1910	553,039 40	29,126 91	43,141 00	*14,659	15,576	13,024
1911	622,995 80	28,458 83	88,861 00	*15,221	16,074	13,550
1912	677,187 94	35,716 10	42,067 3	*15,915	16,584	13,847

*From five to sixteen years of age.

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TABLE GIVING A BRIEF DESCRIPTION OF SCHOOL PROPERTY; ALSO THE VALUE OF SCHOOLHOUSES AND LOTS, ETC.

BUILDINGS.	Wood or Brick.	No. of Stories.	No. of School-Rooms.	No. of Recitation Rooms.	No. of Desks and Seats.	Condition.	Date of Occupation.	Heating Apparatus.	Value of Land.	Value of Buildings.	Value of Furniture.	TOTAL.	Area Lots. (Square Feet.)
Acushnet Avenue	B	2	13	10	510	Good	1896	Steam	$10,000 00	$45,000 00	$2,400 00	$57,400 00	18,850
Alden Street	B	2	4		168	Good	1890	Steam	2,500 00	14,000 00	306 00	16,806 00	18,767
Armory Street	B	2	21	2	517	New	1901	Steam	4,500 00	145,300 00	2,633 26	152,433 26	131,860
Barrows	B	3	10	1	460	Good	1868	Steam	6,000 00	39,000 00	789 13	45,789 13	37,637
*Belmont Avenue	W	2	4		168	Good	1893	H. A.	2,500 00	5,400 00	200 00	8,100 00	21,026
Boston Road	W	2	2		160	New	1899	H. A.	500 00	6,900 00	1,100 00	8,500 00	43,560
Brightwood	B	2	7	2	334	Good	1899	Steam	3,000 00	34,800 00	1,430 00	39,230 00	32,646
Buckingham	B	2	12	2	539	Good	1891	H. A.	11,000 00	48,000 00	2,351 00	61,351 00	37,114
Carew Street	B	2	12	2	571	Good	1894	H. A.	8,500 00	45,000 00	946 00	54,446 00	36,000
*Carlisle	B	2	1			Good		Stove	1,000 00	200 00		1,200 00	43,569
Central Street	B	3	16		623	Good	1871	Steam	9,000 00	74,308 79	1,708 15	85,016 94	49,154
Charles Street	B	2	4		184	Good	1890	Steam	1,700 00	14,000 00	248 00	15,948 00	9,951
Chestnut Street	B	3	37		1,161	New	1903	Steam	41,000 00	244,000 00	6,273 78	291,273 78	138,794
Dry Bridge	W	1	1			Good	1881	Stove	300 00	1,200 00	125 00	1,625 00	11,434
Eastern Avenue	B	2	7	2	254	Good	1899	H. A.	3,200 00	30,000 00	1,074 00	34,274 00	27,720
East Union Street	B	2	8	2	294	Good	1876	Steam	2,700 00	23,000 00	1,235 00	26,935 00	25,779
**Emery Street	B	2	4		172	Fair		Stove	2,500 00	5,000 00		7,500 00	6,819
Five Mile Pond	B	2	1		39	Good		Stove	100 00	2,000 00	45 00	2,145 00	18,887
Forest Park	B	3	18	1	717	Good	1899	Steam	19,000 00	85,000 00	2,400 00	106,400 00	118,960
Glenwood	B	2	4		168	New	1903	Steam	1,500 00	16,000 00	747 31	18,247 31	43,656
High (Central)	B	3	16	20	776	Good	1898	Steam	100,000 00	350,000 00	15,000 00	465,000 00	80,114
High (Commercial)									200 00			200 00	
High (Technical)	B	3	16	2	787	New	1906	H. W.	30,000 00	280,000 00	18,601 14	328,601 14	61,700
Homer Street	B	2	9	2	348	Good	1898	Steam	8,000 00	36,000 00	1,737 00	45,737 00	52,200
Hooker	B	3	14	2	584	Good	1866	Steam	50,000 00	60,000 00	2,315 00	112,315 00	33,411
Howard Street	B	2	17	2	646	New	1906	Steam	13,000 00	46,000 00	2,825 00	61,825 00	51,029
I. O. Grammar	B	3	13	2	382	Good	1868	Steam	4,000 00	65,000 00	1,423 00	70,423 00	40,736
I. O. Primary	W	2	4	1	235	Good	1898	H. A.	1,200 00	12,000 00	720 00	13,920 00	22,500
Jefferson Avenue	B	2	9	2	400	Good	1889	Steam	7,000 00	40,000 00	1,000 00	48,000 00	21,079
Kensington Avenue	B	2	16		472	New	1909	Steam	8,500 00	98,086 74	3,152 75	109,739 49	90,418
Lincoln School	B	2	16		588	New	1910	Steam	9,950 00	87,777 22	4,272 60	101,999 82	94,090
***Pynchon	B	2		1		Good	1891	H. A.	26,600 00	38,000 00		64,600 00	20,885
School Street	B	2	4		185	Good	1892	Steam	13,500 00	18,000 00	600 00	32,100 00	86,156
Sixteen Acres	B	2	2	2	72	Good		Stove	100 00	2,000 00	42 00	2,142 00	15,056
State Street	B	3	6	3	541	Good	1874	Steam	44,000 00	78,000 00	3,025 00	125,025 00	30,778
Strickland	B	2	6	2	259	Good	1884	H. A.	3,000 00	20,000 00	613 00	23,613 00	6,050
Sumner Avenue	B	2	10	1	252	New	1912	Steam	10,300 00	58,121 50	2,975 74	71,397 24	85,300
Tapley	B	2	14	2	606	Good	1888	Steam	10,000 00	70,000 00	2,469 91	82,469 91	45,063
*Wachogue	W	1	1	2	40	Fair		Stove	100 00	800 00	35 00	935 00	8,275
White Street	B	2	14	1	378	New	1905	Steam	4,500 00	49,500 00	2,066 32	56,066 32	100,000
William Street	B	2	11		406	New	1901	Steam	8,000 00	58,000 00	2,200 00	68,200 00	35,701
Worthington Street	B	3	11		529	Good	1869	Steam	7,000 00	45,000 00	848 00	52,848 00	38,500
Office Building	W	2				Poor		Steam	7,900 00	3,000 00	1,200 00	12,100 00	6,872
York Street									2,000 00			2,000 00	15,000
			385	71	15,727				$499,350 00	$2,393,394 25	$93,133 09	$2,985,877 34	

*Unused.
**Used for Storehouse.
***Used by city for Municipal Building, Jan. 23, 1905.

Under Heating Apparatus, H. A.—Hot Air.
" " " H. W.—Hot Water.

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TEACHERS' SALARIES.

(Regular Maximum.)

High Schools:—	
Principals,	$2,700—$3,500
Teachers, men,	1,500—2,400
Teachers, women,	800—1,500
Teacher of Music (part time),	400
Grammar Schools:—	
Principals,	1,500—2,780
Principal's Assistant (Grade IX.),	850—900
Principals of Primary and lower Grammar Grades,	850—1,350
Principals of Primary Schools,	800—850
Teachers of Grades I.-VII., inclusive,	750
Assistants, not in charge of room,	450—650
Kindergartens:—	
Head Kindergartners,	650—750
Assistants,	450—550

Supervisors and Special Teachers.

Supervisor of Drawing,	$1,600
Assistant Supervisors of Drawing,	800—850
Supervisor of Music,	2,000
Assistant Supervisor of Music,	1,000
Supervisor of Elementary Science,	1,000
Supervisor of Physical Training,	2,000
Supervisor of Manual Training in Grammar Grades, and Principal of Vocational School,	2,400
Teachers of Sewing,	700—850
Teachers of Manual Training in Grammar Grades,	850—1,500
Teachers of Cooking,	700—900

Assistants in Grades I.-VI. inclusive, salaries fixed by the Board.

There are special maximum salaries, as follows: For Grades I.-VII., $800; for Grade VIII., $850; and for Grade IX., $900. These salaries are granted only to teachers who are doing work of superior excellence, and a unanimous vote of the entire Board, excepting the Mayor is required to grant the whole or any portion of them.

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SALARIES OF JANITORS.

Schools.	Salary per week.
Acushnet Avenue,	$20.00
Alden Street,	13.00
Armory Street,	22.00
Barrows,	19.00
Boston Road,	13.00
Brightwood,	17.00
Buckingham,	20.00
Carew Street,	20.00
Central Street,	22.00
Charles Street,	13.00
Chestnut Street, Engineer,	24.00
Chestnut Street, Janitor,	16.00
Chestnut Street, Janitor,	16.00
Dry Bridge,	4.00
Eastern Avenue,	17.00
East Union Street,	17.00
Five Mile Pond,	4.00
Forest Park,	22.00
Glenwood,	13.00
High (Central), Engineer,	25.90
High (Central), Fireman,	19.00
High (Central), Janitor,	16.00
High (Central), Janitor,	16.00
High (Technical), Engineer,	23.01
High (Technical), Fireman,	19.00
High (Technical), Night Fireman and Watchman,	17.00
High (Technical), Janitor,	16.00
High (Technical), Janitor,	16.00
Homer Street,	19.00
Hooker,	22.00
Howard Street,	22.00
Indian Orchard Primary,	17.00
Indian Orchard Grammar,	20.00
Jefferson Avenue,	19.00
Kensington Avenue,	20.00
Lincoln School,	22.00
School Street,	13.00
Sixteen Acres,	5.00
State Street,	16.00
Strickland,	17.00
Sumner Avenue,	17.00
Tapley,	22.00
White Street,	19.00
William Street,	19.00
Worthington Street,	19.00
Vernon Street Office,	17.00

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SPRINGFIELD PUBLIC SCHOOLS.

RATES OF TUITION FOR NON-RESIDENT PUPILS.

DAY SCHOOLS.	First Term.	Second Term.	Third Term.	Fourth Term.	Year.
High Schools, ...	$40 00	$20 00	$20 00	$20 00	$100 00
Grammar Schools, ...	14 00	7 00	7 00	7 00	35 00
Primary Schools, ...	8 00	4 00	4 00	4 00	20 00
Ungraded Schools, ...	8 00	4 00	4 00	4 00	20 00

EVENING SCHOOLS.	FOR THE SEASON.
High, ...	$15 00
Grammar and Primary, ...	20 00
Draughting, ...	10 00
Free-hand Drawing, ...	10 00
Trade Classes, ...	20 00

Tuition is payable one term in advance. It should be paid directly to the City Collector at Municipal Building, who will give a receipt for it. Upon presentation of this receipt to the Superintendent a permit will be given the pupil for admission to school.

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FIRE COMMISSIONERS.

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REPORT OF THE

BOARD OF COMMISSIONERS

OF

THE FIRE DEPARTMENT.

SPRINGFIELD, MASS., December 26, 1912.

To His Honor, the Mayor, and Members of the City Council.

The annual report of the Board of Commissioners of the Fire Department for the year ending November 30, 1912, is herewith respectfully submitted:—

MEMBERSHIP OF BOARD.

Octave A. LaRiviere, term expires first Monday of May, 1913.
Charles F. Brown, term expires first Monday of May, 1914.
Frank H. Wesson, term expires first Monday of May, 1915.
Edward A. McClintock, term expires first Monday of May, 1916.
John A. Denison, Alderman and Chairman of the Fire Department Committee of the City Council, *ex officio*.

Organization: Chairman, Edward A. McClintock; Secretary, Frank H. Wesson; Clerk, Louis E. Shattuck.

EXPENSES.

It is gratifying to note, as the fire department proceeds with the elimination of horse-drawn apparatus and the substitution

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therefor of new, up-to-date motor apparatus, a saving to the city fully commensurate with the original estimates of this Commission, when the subject of motor-propelled fire apparatus was first considered locally.

The expenditures for the year just closed amount to but $239,211.22, a saving of $8,141.57 over those of the preceding year. This saving assumes added significance in view of the further facts that the department has, during 1912, been increased by thirty-two (32) men and has responded to one hundred (100) more alarms than during 1911. The annual appropriation, with receipts, this year amounted to $239,-654.30. Of this amount, which was $9,011.82 less than the amount of the appropriation and receipts for 1911, a balance of $443.08 remains unexpended.

BUILDINGS.

The new North street fire station, occupied in October by Engine Co. No. 2, is regarded by this Commission as one of the satisfactory developments of 1912 in the prosecution of the general plan to make and maintain the Springfield fire department at the highest standard of efficiency. Erected at an outlay of $62,000 for land and building, it is not only a modern motor station but is absolutely sanitary and in every way adapted to the well-being of the men quartered there. Further progress in this direction will be made when it is possible, during the ensuing year, to improve conditions at the North Main street station, as recommended in the accompanying report of the Chief Engineer.

APPARATUS.

That the progress being made toward the ultimate complete motorization of the department apparatus may better be illustrated, the annual inventory is herewith presented in classified form:—

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Motor.

Chestnut street: one motor combination hose and chemical car and one motor auxiliary squad car.

Court street: one chief's car, one motor aerial hook and ladder truck, one motor combination hose and chemical car, one motor runabout car (Supt. Fire Alarm), one motor truck for fire alarm service, and one water tower.

Margaret street: one motor combination hose and chemical car and one spare motor car. (One spare horse-drawn steam fire engine, without horses.)

North street: one chief's car, one electric combination hose wagon. (One spare horse-drawn steam fire engine, without horses.)

Pine street: one chief's car, one motor combination hose and chemical car, one spare motor combination hose and chemical car, and one motor aerial hook and ladder truck.

Motor and Horse.

Mill street: one horse-drawn steam fire engine, one horse-drawn hook and ladder truck, one motor combination hose and chemical wagon, and one supply wagon.

North Main street: one horse-drawn hose and chemical wagon, one motor aerial hook and ladder truck, one supply wagon, one trolly transportation car, and two sleighs.

Oakland street: one horse-drawn steam fire engine, one motor combination hose and chemical car, one horse-drawn hook and ladder truck, one supply wagon, and one sleigh.

Walnut street: one chief's car, one motor auxiliary squad car, one horse-drawn steam fire engine, one horse-drawn combination hose and chemical wagon, one horse-drawn supply wagon, and one sleigh.

Winchester square: one motor combination hose and chemical car, one horse-drawn steam fire engine, one horse-drawn

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aerial hook and ladder truck, one horse-drawn supply wagon, and three sleighs.

HORSE.

Armory street: one horse-drawn combination hose and chemical wagon, one horse-drawn steam fire engine, one horse-drawn supply wagon, and one sleigh.

Indian Orchard: one horse-drawn steam fire engine, one horse-drawn combination hose and chemical wagon, one horse-drawn hook and ladder truck, one supply wagon, one horse-drawn chief's wagon, and one sleigh.

Mill River lane: two chemical engines, one horse-drawn ladder truck, one horse-drawn hose wagon, and seven sleighs. (Stored).

Plainfield street: one horse-drawn combination hose and chemical wagon, and one horse-drawn supply wagon.

Boston road: one hand hose-reel.

PERSONNEL OF FIRE DEPARTMENT.

Probably one of the most marked changes ever made in the personnel of the fire department was that brought about through the abolition of the call service in the city proper and the simultaneous increase of the permanent force, as stated in the report of the Chief Engineer.

Some of the best fire-fighters ever connected with the department were numbered among its call men and it was with no little regret that their services were dispensed with, but the rapid growth of the city within the past few years compelled the maintenance of a permanent force of sufficient size to properly cope with Springfield's increasing fire hazards.

The one hundred and seventy-seven (177) men at present comprising the department force are classified as follows: one chief engineer, three assistant chief engineers, one superintendent of fire alarm, one clerk, twenty-one (21) captains,

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twenty-three (23) lieutenants, seven engineers, three operators of fire alarm system, two linemen, one hundred and twelve (112) hose and ladder men, and three call men.

It is essential that the new motor aerial ladder truck, now stored at the Pine street station for lack of a company to man it, be placed in commission as early as possible, and it is recommended that the necessary increase of men be authorized early in the ensuing year.

DRILL SCHOOL.

In its new location at the North Main street station, the drill school is better situated to carry on the work which, since its inception, has proven such a valuable asset of the department. The school has been inspected during the year by visiting officials of fire departments in other large cities, and almost invariably the Chief Engineer's policy of using the school as a means to render the men competent in every branch of the service, instead of specializing, has been the subject of favorable comment.

MOTOR-DRIVEN APPARATUS.

Firmly convinced that the life and property saving, as well as the economic value of motor-driven fire fighting apparatus, has now been so completely demonstrated in this city as to leave no question in the mind of even the most casual observer, the members of this Commission are unanimously of the opinion that the department apparatus should be completely motorized, and early action enabling this important step is respectfully recommended. When the matter of the appropriation for the ensuing year comes up for discussion, facts and figures will be presented conclusively establishing the great saving to the city, certain to result by completing the motorization of the department apparatus, now so well under way, and it is the hope of your Commissioners that this action, so

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important to the future of the fire department, may receive the sanction of the City Council.

Of the motor fire apparatus now in service there is nothing to be said, except that it has given complete satisfaction throughout the year. As so-called comparisons of the cost of maintenance between motor and horse apparatus are so overwhelmingly in favor of the motor pieces, no attempt has been made to present such a statement herewith.

REPORT OF CHIEF ENGINEER.

Your careful perusal of the annual report of the Chief Engineer is respectfully urged, as the facts and figures presented therein establish, better than any comment by this Commission, the accomplishments and needs of the department.

All recommendations contained in the Chief's report are offered for adoption, and especially do we urge the need of early action in the matters of motor apparatus for the Indian Orchard station, a new aerial hook and ladder truck for the Winchester square station, and alterations at the North Main street station.

FIRE ALARM TELEGRAPH.

The expectations of the Commission with regard to the new fire alarm system have been fulfilled by the service rendered during the year, and we have no hesitancy in declaring that, as it stands to-day, the system is the equal of any in this or any other country. Your attention is invited to the accompanying report of the Superintendent of Fire Alarm, and the recommendations contained therein are respectfully urged for adoption.

CONCLUSION.

The evident desire of His Honor, the Mayor, and the Members of the City Council to co-operate with us in main-

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taining the Springfield fire department at the highest possible standard of efficiency consistent with adequate protection, at least expense to the taxpayers, has been very gratifying to the members of this Commission, and our thanks, both as a body and individually, are hereby extended them.

To Chief William H. Daggett we desire to express our sincere appreciation of his able administration of the fire department at this, probably, the most critical period in its history; to the Assistant Chiefs and the Superintendent of Fire Alarm, our thanks for their hearty co-operation, and to the members of the uniformed force, our full knowledge and appreciation of their faithful service.

EDWARD A. McCLINTOCK,
FRANK H. WESSON,
O. A. LaRIVIERE,
CHAS. F. BROWN,
JOHN A. DENISON,

Board of Commissioners of the Fire Department.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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REPORT OF

THE CHIEF ENGINEER.

SPRINGFIELD, MASS., December 16, 1912.

To the Honorable Board of Commissioners of the Fire Department.

GENTLEMEN: As required by the ordinance governing the fire department I have the honor to submit my fifth annual report.

During the year the department has responded to eight hundred and twenty-nine (829) alarms of fire, an increase of one hundred (100) over those of 1911. The total number of bell alarms was three hundred and seventeen (317); still alarms, one hundred and ten (110); telephone, three hundred and eighty-three (383); thermostat, nineteen (19).

The loss on property involved in the fires of the year amounted to $166,210.66 of which $142,425.66 represents the insured and $23,785.00 the uninsured loss. Notwithstanding the fact that the department has responded to one hundred (100) more alarms, the loss during 1912 is $233,143.33 less than that of 1911. The total value of property on which fire losses were sustained during the year amounted to $3,005,323.13 and the insurance carried on this property amounted to $2,433,799.56. Five thousand seven hundred and eighty-two (5,782) examinations of buildings were made.

The appropriations and receipts of the department amounted to $239,654.30 and the expenditures to $239,211.22, leaving an unexpended balance of $443.08. The amount spent during 1912 was $8,141.57 less than in 1911.

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MANUAL FORCE.

The manual force consists of one hundred and seventy-seven (177) men, of whom one hundred and seventy-four (174) comprise the permanent officers and men, the remaining three being call men. Of those included in the permanent list, twenty-six (26) men are serving under provisional appointments, owing to the fact that no certified list of applicants has yet been furnished by the Civil Service Commission.

During the year the number of call men has been decreased by seventeen (17), and the permanent force increased by thirty-two (32) men, of whom twenty-one (21) were necessary to maintain the efficiency of the department as a result of granting the force one day off in every five.

HOSE WAGONS.

Two new motor hose wagons have been added to the equipment during the year, one being located at the Mill street and the other at the Oakland street fire station. With the completion of two more, now in process of construction, all except three of the hose wagons in service will be motor-propelled. Modern motor hose and combination cars are now located at the Chestnut, Court, Margaret, Mill, North, Oakland, Pine, and Winchester square stations, while horse-drawn wagons remain in service at the Armory, Indian Orchard, North Main, Plainfield, and Walnut street stations.

Under an exchange with the Knox Automobile Company the old Squad B car has been replaced by a new, larger and more powerful piece of apparatus identical in construction and equipment with the Squad A car secured under a similar exchange last year.

The supply wagons and sleighs of the department are all in good serviceable condition.

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LADDER TRUCKS.

One new motor aerial ladder truck has been purchased this year. This truck, originally intended for the Pine street station, is now stored, awaiting a company to man it.

I desire to renew my recommendation that a motor-driven truck be substituted for the present horse-drawn truck at the Winchester square station, as the buildings in the territory served by this truck are daily increasing in numbers and in size.

STEAM FIRE ENGINES.

Though Springfield's excellent water service has made it unnecessary to use a steam fire engine at any fire during the year there has been no neglect in the upkeep of this branch of the service, which at any moment may be called into use.

A test just completed by experts representing the National Board of Fire Underwriters has demonstrated that the engines in this department are, with one exception, receiving the best possible care and attention and, with the exception of two, which may at any time need new boilers, are now in condition to render good service.

I recommend that a motor-propelled gasoline pumping engine, with body for the carrying of hose, be purchased and located at the Indian Orchard station simultaneously with a combination motor hose wagon. This station, upon which the protection of a large and growing section of the city depends, is lacking in reserve apparatus and should have two pieces carrying hose, so that one may always be counted on to reach a fire in the event of accident to the other.

HOSE.

All hose now on hand, with the exception of five hundred (500) feet stored in the Boston road building, is in good serviceable condition, but in the event of a large fire the department

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might be badly handicapped for lack of more hose and I respectfully recommend the purchase of four thousand (4,000) feet during the ensuing year.

BUILDINGS.

By locating a motor combination car at the North Main street station two objects may be accomplished. This station would then be completely motorized, as are the Court, Chestnut, Margaret, North, and Pine street stations, and opportunity would thus be afforded to make changes in the sleeping and bathing facilities at this station which, from the sanitary standpoint, are absolutely necessary. Though now housing seventeen men, the North Main street station is equipped with but two set bowls and two bathtubs, and I recommend that the change in its apparatus, to enable the further change in sanitary conditions, be made as suggested.

Owing to the fact that the doors at the Chestnut street station were so hung as to swing out across the sidewalk instead of back into the house, great inconvenience, attended by more or less danger, is experienced in responding to an alarm, as such a wide turn is necessary to clear the open doors that in wet weather it is only with great difficulty the apparatus is prevented from skidding across the street into the opposite curb. These doors have also become badly decayed and I recommend that new ones be built and so constructed as to swing in.

Your attention is also respectfully invited to the condition of the walks and driveways about the Winchester square and Oakland street stations. These are badly broken and constitute a source of possible personal injury from which claims for damage against the city may any day arise. I respectfully recommend that steps to repair these broken walks and drives be taken immediately.

The old Bond street station was abandoned in October,

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the company located there being transferred to the new North street station, which in construction and appointments is, without doubt, the equal of any in the country.

HORSES.

The number of horses in the department service has now been reduced to thirty-five. At the outset of the year we had forty-five. Of that number ten have been sold or exchanged. Those remaining are all in good condition.

DRILL SCHOOL.

The drill school is now more advantageously located in new quarters at the North street station. It is maintained at its usual high standard and is proving its value in the training of members of the department.

With this report and constituting a portion thereof I am submitting a statement of the receipts and expenditures, for the year, an inventory of the lands, buildings, and equipment of the department, a list of the alarms, the fires and causes of same, from December 1, 1911, to December 1, 1912, together with the names of the owner and occupant in each case, a statement of the loss involved and insurance carried, the number of alarms to which each company responded and the locations of the fire alarm boxes.

Respectfully,

W. H. DAGGETT,

Chief Engineer.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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RECEIPTS.

Appropriation,	$236,055.00	
Transfer,	3,599.30	
		$239,654.30

EXPENDITURES.

Apparatus,		$17,743.63	
Buildings,		3,910.08	
Clothing,		514.45	
Fire Alarm,		5,783.79	
Fire Tools,		698.01	
Forage,		6,492.76	
Fuel,		6,147.38	
Furniture and bedding,		1,216.64	
Harness,		55.62	
Highway and grounds,		29.28	
Horses, Shoeing,	$1,461.10		
Veterinary,	403.34		
		1,864,44	
Hose,		3,022.20	
Laundry,		749.53	
Light,		1,007.79	
Miscellaneous,		443.38	
Pay roll,		185,943.24	
Supplies,		2,818.18	
Telephone,		770.82	
			239,211.22
Balance unexpended,			$443.08

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INVENTORY OF THE FIRE DEPARTMENT.

DECEMBER 1, 1912.

	Land.	Buildings.	Equipment.	Total.
Armory street,	$1,200.00	$16,000.00	$7,236.00	$24,436.00
Boston road,		200.00	300.00	500.00
Chestnut street,	10,000.00	14,500.00	12,400.00	36,900.00
Court street,	35,000.00	101,500.00	45,600.00	182,100.00
Hooker street,	3,900.00	20,400.00	15,700.00	40,000.00
Indian Orchard,	1,200.00	16,000.00	8,175.00	25,375.00
Margaret street,	2,000.00	25,500.00	11,850.00	39,350.00
Mill street,	2,000.00	16,500.00	14,500.00	33,000.00
Mill River lane,	300.00	2,000.00	1,300.00	3,600.00
North street,	4,000.00	58,000.00	15,000.00	77,000.00
Oakland street,	2,000.00	11,000.00	13,000.00	26,000.00
Pine street,	2,500.00	35,000.00	20,900.00	58,400.00
Plainfield street,	1,200.00	10,500.00	3,017.00	14,717.00
Walnut street,	3,500.00	17,500.00	15,900.00	36,900.00
Winchester Square,	7,000.00	18,000.00	17,500.00	42,500.00
Fire alarm service,			112,400.00	112,400.00
	$75,800.00	$362,600.00	$314,778.00	$753,178.00

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DETAILED STATEMENT OF FIRES FOR THE YEAR ENDING NOVEMBER 30, 1912.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
1911												
Dec. 1	6:36 a.m.	Ther.	228 Birnie Ave...	False.....	U.S.Spring B.Co.	U.S.Spring B.Co.						False alarm.
" 1	11:13 a.m.	Tel.	Cherrelyn Ave...	Grass.....								Grass fire.
" 2	6:40 a.m.	Ther.	228 Birnie Ave ..	False.....	U.S.Spring B.Co.	U.S.Spring B.Co.						False alarm.
" 2	7:37 a.m.	8	58 Taylor St.....	M't'r tr'ck.	Cutler's Garage..	H. P. Stone Co..				$146.00	$2,000	Gasoline.
" 2	3:00 p.m.	17	427 State St.....	Brick.....	L. Zimmerman..	A. Surprenant...	Dw'g & th'tre	$175.00	$4,500	48.61	500	Defective chimney.
" 3	11:20 a.m.	still	739 Main St.....	Chimney..								Chimney fire.
" 3	7:00 p.m.	75	18 Allendale St...	Frame.....	Jacob Steinberg..	Jacob Steinberg..	Dwelling....	25.00	3,600	None		Sparks from chimney.
" 4	3:50 p.m.	Tel.	100 Benton St...	N'dl'ss'al'm								Back draft.
" 6	8:25 p.m.	36 I O	145 Main St., I.O.	Brick.....	MrsLMGelineau.	J. Beaupre		30.00	14,500	None		Defective chimney.
" 7	9:25 p.m.	89	31½ Knox St....	Frame.....	H. Goldberg....	A. E. Lampson..	Store.....	40.00	3,000	Slight	500	Incendiary.
" 9	10:02 a.m.	76	417 Chestnut St..	Frame.....	T.P.Quinlivan...	T.P.Quinlivan...	Dwelling....	240.00	2,300	141.00	600	Unknown.
" 10	12:23 p.m.	Tel.	Foot of Fort St..	Frame.....	NYNH&HRR.	NYNH&HRR.	Boiler house..	65.00	1,000			Unknown.
" 12	3:40 p.m.	Tel.	Indian Orchard..	Grass.....								Grass fire.
" 12	6:40 p.m.	371	Indian Orchard..	Brick.....	Ch'pm'nV'lveCo.	Ch'pm'nV'lveCo.	Factory.....					Overheated stack.
" 13	12:40 p.m.	Tel.	Indian Orchard..	Chimney..								Chimney fire.
" 14	11:50 p.m.	Tel.	227 Main St.....	P'nt&fr.std	L. Fossa.....	L. Fossa.....						Charcoal heater.
" 15	7:00 p.m.	35	2 Park St.....	Brick.....		MrsCMCallahan	Dwelling....	None		15.00	1,000	Drunkenness.
" 16	7:00 a.m.	Tel.	34 Pearl St.....	Frame....	J. J. Cotter.....	J. J. Cotter.....	Garage.....	None		15.00	1,000	Gasoline.
" 18	7:35 a.m.	29 I O	Indian Orchard..	Chimney..								Chimney fire.
" 19	7:15 p.m.	14	56 Summer St....	Frame....	Mrs. P. J. Gaffney	F. Lloyd.....	Dwelling....	60.00	3,000	70.00	500	Gas jet and curtains.
" 20	2:17 a.m.	21	525 Main St.....	Brick.....	J. C. & P. Morse	Hirschen Fur. Co.	Dw'g & store.	500.00	32,000	425.00	7,000	Rubbish in barrel.
" 20	1:47 p.m.	78	104 Tenth St....	Frame....	L. Savitzky.....	S. Katz.....	Dwelling....	100.00	2,500	50.00	None	Unknown.
" 20	3:27 p.m.	Tel.	164 Ferry St.....	Rubbish...	J. Kushner.....							Rubbish.
" 21	7:11 a.m.	still	Belmont Ave....	Trolly car.								Trolly car.
" 21	7:48 p.m.	Tel.	Forest Park.....	Brush.....								Brush fire.
" 22	12:52 p.m.	Tel.	34 Norwood St...	Chimney..								Chimney fire.
" 24	6:12 p.m.	771	32 Genesee St....	Frame.....	P. Sullivan.....	P. Sullivan.....	Dwelling....	25.00	4,000	Slight		Careless with matches.
" 25	9:04 a.m.	Tel.	303 Main St.....	Brick.....	F. S. Worthy....	Worthy Hotel..	Hotel.....					Fat.
" 25	3:13 p.m.	7	263 Sharon St....	Frame....			Dwelling....					Escaping gas.
						S. Bresky.....				140.00	900	
						S. Wilder.....				100.00	250	
" 26	4:29 a.m.	78	99-101 Grnwd. St.	Frame....	S. Bresky.....	D. Cavanaugh	Dwelling....	525.00	6,000	25.00	None	Unknown.
						S. Dubbrin...				15.00	600	
						Anna Goldin..				25.00	None	
" 27	9:29 a.m.	3	227 Main St.....	P'nt&fr.std	L. Fossa.....	L. Fossa.....				11.65	250	Charcoal heater.
" 28	4:32 p.m.	Tel.	Washburn St....	Rubbish...								Child'n play'g with fire.
" 28	4:50 p.m.	4 I.O.	Indian Orchard..	Grass.....								Grass fire.
" 28	4:58 p.m.	Tel.	Clantoy St.....	Brush.....								Brush fire.
" 28	8:16 p.m.	25	57 Harrison Ave..	Frame....	Seymour Est....	L. Karp.....	Store.....	121.00	8,000	2,165.00	4,300	Unknown.
" 29	2:08 a.m.	41	165 Sharon St....	Frame....	Harris Goodless.	Sam Arvalikso..	Store.....	40.00	4,000	75.00	1,000	Unknown.
" 29	7:10 a.m.	Tel.	Indian Orchard..	Br'sh&gr'ss								Spark from locom't've.
" 29	1:12 p.m.	Tel.	Indian Orchard..	Grass.....								Grass fire.
" 29	6:00 p.m.	Tel.	Wight Place.....	Brick.....			Bakery.....					Chimney fire.
" 29	7:15 p.m.	Tel.	South St.....	Grass.....								Grass fire.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings. Loss on	Buildings. Ins. on	Contents. Loss on	Contents. Ins. on	Cause and Circumstances of Fire.
Dec. 29	11:25 p.m.	Tel.	Rushville	Grass								Grass fire.
" 30	6:55 p.m.	78	93 Bancroft St.	Frame	T. A. Garvey	T. A. Garvey	Dwelling	$11.00	$4,000	None		Careless with matches.
" 30	11:07 p.m.	Tel.	284 Main St.	Brick	G. A. Whitney	Henry Yeomans	Photo gallery	95.00	32,500	$249.62	$700	Unknown.
" 31	9:40 a.m.	still	West St.	Frame			Playhouse					Incendiary.
1912												
Jan. 1	11:32 a.m.	still	61 Locust St.	Brick								Gas range.
" 1	3:50 p.m.	Tel.	44 Manhattan St	Frame	J. E. Dionne	J. E. Dionne	Dwelling	25.00	1,500	150.00	None	Children and matches.
" 1	9:50 p.m.	36 I O	145 Main St., I. O.	Brick	Mrs R M Gelineau	Joseph Beaupre	Dwelling	40.00	14,500	45.50	500	Christmas tree.
" 2	12:13 a.m.	574	61 Hancock St.	Frame	Max Pemple	Mrs. J. Livenman	Store	475.00	1,500	400.00	500	Unknown.
" 2	7:29 p.m.	791	Franklin St.	N'dl'ss al'm								Needless alarm.
" 3	8:07 a.m.	Tel.	356 Main St.	Brick	L. W. Beese		Store					Rubbish chute.
" 3	9:10 a.m.	Tel.	22 Taylor St.	Automobile								Gasoline.
" 3	7:14 p.m.	421	122 Essex St.	Brick	L. Goldberg	L. Goldberg	Dwelling	None		40.00	500	Unknown.
" 5	12:47 a.m.	7	627 North St.	Brick	M. Simcovitz	J. Daduck	Store	60.00	2,000	25.00	None	Unknown.
" 5	2:26 a.m.	9	Liberty St.	Brick	S. W'ls'l Gr'cy Co	S. W'ls'l Gr'cy Co.	Barn	25.00	1,000	10.00	2,400	Careless smoking.
" 5	8:32 a.m.	Tel.	B.& M.R.R.Yards	False								False alarm.
" 5	1:48 p.m.	98	119 Alden St.	Frame	M. E. Randall	Mrs. E. F. Mitch'l	Dwelling	None		19.00	500	Oil stove tipped over.
" 5	2:34 p.m.	Tel.	119 Liberty St.	Brick	Spfd. Foundry Co	Napier Saw W'ks	Factory	None		212.19	16,500	Heat from gas stove.
" 5	4:16 p.m.	Tel.	B'nd&Ch'stn'tSts	False								False alarm.
" 6	7:10 a.m.	43	31 Sargeant St.	Frame	Mrs. A. T. F'rb'ks	Mrs. A. T. F'rb'ks	Dwelling	300.00	8,000	10.00	600	Overheated furnace.
" 6	10:10 a.m.	Tel.	State St.	Automobile	F. Sweeney					10.00	850	Automobile.
" 6	11:55 p.m.	561	78 Bowdoin St.	Frame	F. S. Morse	F. S. Morse	Dwelling	696.00	12,000	450.81	4,000	Overheated furnace.
" 7	11:15 a.m.	43 I O	20 South St., I. O.	Frame	Alex Tatrie	Alex Tatrie	Dwelling	175.00	1,200	None		Overheated stovepipe.
" 7	5:00 p.m.	Tel.	24 Avon Place	Chimney								Chimney fire.
" 7	6:27 p.m.	Tel.	Spfld. Hospital	Brick								Carelessness.
" 7	8:42 p.m.	78	823 North St.	Brick	Albert Karp	Mrs. M. Lebowitz	Store	122.50	14,000	15.00	800	Careless smoking.
" 7	11:55 p.m.	Tel.	823 North St.	N'dl'ss al'm								Needless alarm.
" 8	3:27 a.m.	2	12-14 Taylor St.	Brick	Theodore Geisel	Plaza Theater	Theater	114.62	8,000			Unknown.
" 8	5:54 a.m.	Tel.	44 High St.	Frame	H. S. Webster	Allan G. Rice	Dwelling	None		3.00	2,000	Defective fireplace.
" 8	7:12 p.m.	Tel.	R. R. Y. M. C. A.	Brick								Grease in stove oven.
" 9	10:08 a.m.	Tel.	39 Yale St.	N'dl'ss al'm								Needless alarm.
" 9	11:50 a.m.	732	109 Springfi'ld St.	Frame	Spfd. Hospital	E. J. Vezina	Dwelling	105.37	2,000	464.33	1,000	Unknown.
" 9	2:36 p.m.	7	256 Ferry St.	B'k & F'me	Max Simcovitz	Mary Brennan Sinoski	Dwelling	518.00	2,500	30.00 25.00	None None	Unknown.
" 10	9:47 a.m.	Tel.	33 Thomas St.	Brick	B. Salvensky	H. A. Beaudry	Dwelling	20.00	20,000	20.00	None	Children and matches.
" 10	3:43 p.m.	64	65 Firglade Ave.	Frame	W. C. Hart	W. C. Hart H. J. Winans	Dwelling	349.00	3,600	45.75	1,000	Hot ashes.
" 10	4:10 p.m.	Tel.	51 Acushnet Ave.	Chimney								Chimney fire.
" 10	5:27 p.m.	Tel.	27 Cleveland St.	Frame	M. B. Rub'nstein	A. L. W'rthingt'n	Dwelling	112.00	4,000	Slight		Heat from stove.
" 10	6:27 p.m.	7	678-80 North St.	Brick	R. Tuber		Stores & dw's	175.00	15,000	None		Oil stove.
" 11	9:00 a.m.	Tel.	134 Bridge St.	Frame	Phelps Realty Co.	F. White	Dwelling	None		10.00	None	Careless with oil.
" 11	8:50 p.m.	Tel.	High & Maple Sts.	Stone	South Ch'ch Asso.	South Ch'ch Asso.	Church					Overheated chimney.
" 13	1:30 p.m.	Tel.	461 Central St.	Chimney								Chimney fire.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Jan. 13	4:52 p.m.	84	52 Loring St.	Frame	F. Galluzzo		Dwelling					Thawing water pipe.
" 13	5:07 p.m.	Tel.	306-308 Water St.	Frame	Seltzer & Gr'nblat	Seltzer & Gr'nblat	Store	Slight				Gas leak.
" 14	10:12 a.m.	7	178 Sharon St.	Frame	A. Feinberg	A. Feinberg J. Goldberg F. Molsky F. Kamienski	Dwelling	$650.00	$4,000	$20.00 15.00 10.00 15.00	None None None None	Unknown.
" 14	3:15 p.m.	59	165 Princeton St.	Automobile	H. L. Handy							Automobile.
" 19	6:59 a.m.	Tel.	18 Forest Park Ave.	Chimney								Chimney fire.
" 19	6:55 p.m.	Tel.	35 Westminster St.	Chimney								Chimney fire.
" 20	6:10 p.m.	Tel.	38 Park St.	Brick								Accident with lamp.
" 20	7:12 p.m.	27 I O	259 Main St., I.O.	Frame								Overheated stovepipe.
" 20	11:51 p.m.	673	Sorrento Ave.	N'dl'ss al'm								Drying plaster.
" 21	2:05 p.m.	42	60 Greenwood St.	Frame	Levin & Ziplowitz	B. Ziplowitz	Dwelling	15.00	4,000	45.00	$1,000	Unknown.
" 22	6:36 p.m.	Tel.	132 Ferry St.	Chimney								Chimney fire.
" 23	3:50 p.m.	Tel.	27 Lyman St.	Brick	Spfd. Power Asso.	Bacon & D'n'v'n.	Store	None		101.00	6,500	Careless with gasoline.
" 24	7:58 p.m.	62	9 Hall St.	Frame	Thomas A. Yetto	J. Kravitz D. Baskin	Dw'g & store	285.60	11,000	75.00 37.00	300 300	Unknown.
" 25	4:40 a.m.	Tel.	241 W'th'gt'n St.	N'dl'ss al'm								Needless alarm.
" 25	1:41 p.m.	Tel.	33 Central St.	Chimney								Chimney fire.
" 25	1:50 p.m.	27 I O	Indian Orchard	Frame								Oil stove.
" 25	7:13 p.m.	Tel.	71 Everett St.	Frame	T. Begley	T. Begley	Dwelling	28.68	2,400	None		Hot ashes.
" 26	5:25 a.m.	Tel.	121 College St.	N'dl'ss al'm								Drying plaster.
" 26	6:32 p.m.	7	160 Sharon St.	Brick	M. Bresky	J. Steinberg	Dwelling	75.00	9,000	52.00	300	Unknown.
" 26	10:05 p.m.	7	95-119 Liberty St.	Brick	Spfd. Foundry Co.	Spfd. Foundry Co.	Factory	100.00	54,000	None		Heat from stack.
" 28	9:12 a.m.	352	587 Main St.	Brick	L. Zimmerman	M. Katz J. B. Helis N.E.Bed'g Co. M. Goldstein	Store	2,100.00	10,500	445.00 275.00 10.50 2,415.00	1,190 500 1,000 3,200	Unknown.
" 28	12:32 p.m.	16	170 Summer St.	Frame	M. S. Converse	D. Flory	Dwelling	80.00	2,300	Slight	None	Unknown.
" 28	4:55 p.m.	still	112 Taylor St.	N'dl'ss al'm								Needless alarm.
" 28	5:37 p.m.	Tel.	220 Sharon St.	Chimney	I. Fox							Chimney fire.
" 29	5:50 p.m.	still	12 Hooker St.	Frame	O. A. Fay	M. Klemer	Dwelling					Meat in oven.
Feb. 1	3:25 p.m.	421	35 Tenth St.	Frame	J. Aronstans	J. Aronstans	Dwelling	467.00	2,700	724.63	1,500	Unknown.
" 2	5:53 p.m.	471	138 No. Main St.	Frame								Child'n play'g with fire.
" 3	3:30 p.m.	36 I O	Indian Orchard	Chimney								Chimney fire.
" 3	11:00 p.m.	Tel.	Warner Place	Dump								Dumping grounds.
" 4	4:45 a.m.	still	Moreland Ave.	N'dl'ss al'm								Drying plaster.
" 4	5:15 p.m.	Tel.	204 Plainfield St.	Chimney	N. J. Driscoll							Chimney fire.
" 4	6:18 p.m.	921	46 Oak Grove Ave.	Frame	P. Syrett		Playhouse	Slight				Unknown.
" 4	7:42 p.m.	46 I O	Indian Orchard	Chimney								Chimney fire.
" 5	7:37 a.m.	Tel.	Margaret St.	Frame	Spfd. St. Ry. Co.	Spfd. St. Ry. Co.	Wire house	None		230.00	None	Damp wires.
" 5	7:45 a.m.	Tel.	West St.	Dump								Dumping grounds.
" 5	9:55 a.m.	still	15 Guild Ave.	Frame	H. Lincoln		Dwelling					Thawing water pipe.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Feb. 5	10:38 p.m.	35	600 Main St.....	Frame....	Wm.H.SmithEst.	Mrs.Jos.White...	Dwelling....	$14.50	$4,000	$25.00	$1,000	Curtain and gas jet.
" 6	8:05 p.m.	Tel.	300 Bridge St....	Chimney..								Chimney fire.
" 7	8:09 a.m.	Tel.	64 Ferry St.....	Brick.....	J. Freedman....	J. Freedman....	Storehouse...					Unknown.
" 8	5:19 a.m.	79	21 Cass St.....	Frame....	M. Levin.....	C. J. Lindquist..	Store.....	75.00	1,000	128.00	1,400	Unknown.
						Geo.Smith&Co				2,051.73	4,500	
						Dr. Downey..				1,000.00	None	
						Tuohey..				300.00	None	
						Mrs. Hendee..				1,500.00	None	
						R.AutoT'p Co.				1,500.00	None	
						P. Curtis.....				1,950.00	None	
" 8	10:35 a.m.	14	531 W'th'gt'n St.	Brick.....	Geo. Smith & Co.	In.Gym.Sy.Co.	Factory.....	17,461.00	25,000	1,000.00	None	Unknown (2d alarm).
	10:37 a.m.	14				P. Angiers....				1,500.00	1,500	
						H. A. Moses..				1,100.00	1,100	
						J. J. Moyn'h'n				900.00	None	
						W. B. Lincoln.				1,100.00	None	
						F. O. Smith...				1,000.00	None	
						F. F. Clark...				300.00	None	
						A. P. Hawley..				107.00	1,500	
" 8			156 Spring St....	Frame....	J.C.& S.O.S'k't		Dwelling....	10.82	2,000			Exposure.
					J. Swaine.....		Dwelling....	75.00	1,000			
" 8	3:20 p.m.	23	53 Market St....	Brick.....	F. B. Taylor....	A. A. Chilson..	Store.....	500.00	500	25.00	4,000	Defective chimney.
						J. Sullivan....		125.00	23,500			
" 8	4:42 p.m.	96	113 Hancock St..	Frame....	A. H. Phillips...	F. W. Bruso....	Dwelling....	164.00	1,300	302.37	1,000	Children and matches.
" 8	7:03 p.m.	462	128 Washburn St.	Frame....	J. Abranofsky...	J. Abranofsky.	Dwelling....	300.00	2,800	400.00	500	Unknown.
						N. Morin.....				55.00	1,000	
" 8	9:38 p.m.	41	116 Ferry St.....	Brick.....	H. Alpert.....	L. Grapper...	Store& ap'm't	600.00	30,000	90.00	700	Accident to oil stove.
						Radding & Co.				1,500.00	None	
" 9	8:51 a.m.	Tel.	214 W'th'gt'n St.	Brick.....	J. Driscoll.....	Oliver & Howland	Store.....					Careless with match.
" 9	6:35 p.m.	still	Ft. Pleasant Ave.	Trolly car..								Trolly car.
" 10	5:36 a.m.	Tel.	61 Congress St...	Chimney..								Chimney fire.
" 10	12:57 p.m.	681	273 Longhill St...	Brick.....	Mrs.F.I.Burnh'm	Mrs.F.I.Burnh'm	Dwelling....	1,200.00	3,000	577.00	1,000	Sparks from chimney.
" 10	4:59 p.m.	Tel.	375 State St.....	Chimney..	G. A. Russell....							Chimney fire.
" 11	3:30 p.m.	624	52Kensingt'nAve.	Frame....	Ellen C. Hersey.	D. T. Bachand..	Dwelling....	375.00	5,000	150.00	None	Unknown.
" 11	9:07 p.m.	91	25 Burr St.....	Frame....	M. A. Maynard.	F. G. Dye.....	Dwelling....	300.00	3,500	50.00	500	Overheated furnace.
						G. P. Dubois..				95.00	1,000	
" 11	11:00 p.m.	Ther.	58 Harrison Ave..	False.....								False alarm.
" 11	11:40 p.m.	23	124 Dwight St...	Brick.....	M., P. & Wheat	Salvation Army..	Store.....	32.20	5,000	None		Incendiary.
" 12	1:00 a.m.	Tel.	Foot of Cypress St.	Freight car.								Stove in car.
" 13	4:58 a.m.	41	Railroad Terrace.	Brick.....	R. R. Y. M. C. A..	R. R. Y. M. C. A.		96.32	21,200	85.55	2,800	Unknown.
" 13	7:27 a.m.	Tel.	Rush Ave.....	Frame....			Dwelling....					Oil stove.
" 13	12:18 p.m.	still	Indian Orchard...	Automobile	Smith & Murray							Automobile.
" 13	5:25 p.m.	78	108 Greenwood St	Frame....	L. Katler.....	A. Walitsky....	Dwelling....	202.00	5,000	275.00	500	Unknown.
" 13	5:36 p.m.	13	310 State St.....	Brick.....	W. H. Pomeroy..	W. H. Pomeroy..	Dwelling....					Chimney fire.
" 14	7:50 a.m.	still	24 Mill St.....	Frame....			Dwelling....					Hot ashes.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Feb. 14	8:51 a.m.	962	77 Quincy St....	Frame....	C. W. Cape.....	J. L. Steward R. H. Gibson..	Dwelling....	$1,115.00	$2,600	$117.75 100.00	$500 None	Thawing water pipe.
" 14	7:25 p.m.	75	31 Ringgold St...	Frame....	D. Cohen.....	S. Orenstein... W. J. Kennedy B. Boon.....	Dwelling....	320.00	5,000	85.00 50.00 60.00	1,000 500 600	Unknown.
" 15	5:55 p.m.	Tel.	Warner Ave.....	Dump.....								Dumping grounds.
" 15	9:33 p.m.	Tel.	41 Linden St.....	Frame....	Ellen Sheehan...	Ellen Sheehan...	Dwelling....	18.00	2,000	None		Escaping gas.
" 16	12:02 a.m.	still	36 Vernon St....	Brick.....								Defective wiring.
" 17	12:41 p.m.	Tel.	70 W'th'gton St..	Brick.....								Meat on stove.
" 18	10:10 a.m.	still	426 Dwight St...	Brick.....	Steam Power Co.	SomersCr'm'y Co	Store.....	17.25	5,500	None		Careless with match.
" 18	8:30 p.m.	still	18 Alert St.....	Chimney..								Chimney fire.
" 19	3:45 p.m.	28	119 Water St....	Brick.....	Mrs.J.E.Lincoln.	M.O'D'nn'll&Lee	Lodging h'se.	85.00	2,000	18.10	500	Oil stove.
" 19	11:03 p.m.	Tel.	Crossett Ave....	Frame....	J.J.McCarthy Es.	J.J.McCarthy Es.	Barn.....	Slight		None		Careless smoking.
" 22	11:07 a.m.	Tel.	45 Linden St....	Chimney..								Chimney fire.
" 22	1:44 p.m.	Tel.	121 State St....	Brick.....	Brewer Est.....	A. L. Leary.....	Store.....	None		60.00	2,500	Electric flatiron.
" 23	5:15 p.m.	36	293 Water St....	Brick.....	J. Aronstan.....	J. Limsky.....	Dwelling....	None		50.00	300	Accident with candle.
" 24	4:09 a.m.	57	852 State St....	Frame....	M. A. Maynard..	M. A. Maynard..	Factory.....	333.34	500	794.00	2,400	Heat from boiler.
" 24	12:05 p.m.	Tel.	Indian Orchard..	Grass.....								Grass fire.
" 24	4:17 p.m.	Tel.	Liberty St.....	Rubbish...	S.Wh.Gr'cy Co..							Children playing w. fire.
" 24	8:32 p.m.	612	5 South St.....	Frame....	F. J. Richards...	J. F. Cote.....	Dwelling....	50.00	200	200.00	None	Oil lamp.
" 25	2:07 p.m.	271	76 Water St.....	Frame....	E. W. Bemis....	M. Zolski.....	Dwelling....	None		Slight		Oil lamp.
" 26	2:25 p.m.	Tel.	70 Prospect St...	Frame....	M. F. Hancock..	M. F. Hancock..	Dwelling....	33.00	4,200	None		Careless workman.
" 28	7:59 a.m.	41	45 Ferry St.....	Brick.....	S. Joseph.....	S. Joseph.....	Store.....	25.00	9,000	None		Overheated stovepipe.
" 28	8:15 a.m.	still	2 Main St.....	Brick.....	E. F. Leonard...	E. G. Leopoulos..	Store.....	75.00	26,500	136.54	3,600	Overheated furnace.
" 28	12:11 p.m.	still	R. 18 Hooker St.	Rubbish...								Rubbish.
" 29	1:36 p.m.	Tel.	92 Wilbraham Ave	Frame....	C. C. Abbey....	A. L. J. Letender.	Dwelling....	50.00	3,000	126.00	1,000	Careless smoking.
" 29	2:58 p.m.	36	30 Mechanic St..	Frame....	C. T. Healy.....		Dwelling....	Slight		None		Sparks from chimney.
Mar. 1	7:56 p.m.	Tel.	103 Fulton St....	Chimney..								Chimney fire.
" 3	9:48 a.m.	Tel.	103 Lowell St....	Chimney..								Chimney fire.
" 3	11:57 a.m.	Tel.	Alden St.....	Brush.....								Brush fire.
" 3	1:33 p.m.	still	FootofHolyokeSt.	Freight car	B. & M. R. R. Co.							Unknown.
" 3	3:48 p.m.	Ther.	Mill St.....	Brick.....	Spfd. Waste Co.	Spfd. Waste Co.	Factory.....					Defective thermostat.
" 3	5:00 p.m.	Tel.	S'm'r Av.&White	Dump.....								Dumping grounds.
" 3	5:30 p.m.	271	93 Water St.....	Brick.....	Phelps Realty Co	G. Pisani.....	Store.....	25.00	4,500	257.25	1,100	Unknown.
" 4	3:09 a.m.	Tel.	149 Wason Ave..	Brick.....	Powers Paper Co	Powers Paper Co	Factory.....					Dynamo.
" 4	1:15 p.m.	Tel.	Oak Grove St....	Gr'ss&fe'ce								Sparks from locomotive.
" 4	1:48 p.m.	Tel.	77 Elliott St....	Frame....	P. Angiers.....	P. Angiers.....	Dwelling....	75.00	3,600	None		Careless with gasoline.
" 4	5:25 p.m.	Tel.	Albany St.....	Dump.....								Dumping grounds.
" 5	10:34 a.m.	Tel.	600 Union St....	Frame....			Dwelling....					Rags under sink.
" 5	2:47 p.m.	Tel.	Monmouth St....	Grass.....								Grass fire.
" 5	7:58 p.m.	Tel.	Charles St.....	Frame....	B. & A. R. R. Co..	T. J. Sullivan...	Office.....					Overheated stove.
" 8	4:45 p.m.	still	Charter Ave....	Automobile								Automobile
" 8	6:30 p.m.	Tel.	370 Belmont Ave.	Frame....	A. E. Buckler...	W. L. Nichols...	Dw's & st'res	12.00	11,000	5.00	1,500	Careless smoking.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings. Loss on	Buildings. Ins. on	Contents. Loss on	Contents. Ins. on	Cause and Circumstances of Fire.
Feb. 5	10:38 p.m.	35	600 Main St.	Frame	Wm. H. Smith Est.	Mrs. Jos. White	Dwelling	$14.50	$4,000	$25.00	$1,000	Curtain and gas jet.
" 6	8:05 p.m.	Tel.	300 Bridge St.	Chimney								Chimney fire.
" 7	8:09 a.m.	Tel.	64 Ferry St.	Brick	J. Freedman	J. Freedman	Storehouse					Unknown.
" 8	5:19 a.m.	79	21 Cass St.	Frame	M. Levin	C. J. Lindquist	Store	75.00	1,000	128.00	1,400	Unknown.
						Geo. Smith & Co				2,051.73	4,500	
						Dr. Downey				1,000.00	None	
						Tuohey				300.00	None	
						Mrs. Hendee				1,500.00	None	
						R. Auto T'p Co.				1,500.00	None	
						P. Curtis				1,950.00	None	
" 8	10:35 a.m.	14	531 W'th'gt'n St.	Brick	Geo. Smith & Co.	In. Gym. Sy. Co.	Factory	17,461.00	25,000	1,000.00	None	Unknown (2d alarm).
	10:37 a.m.	14				P. Angiers				1,500.00	1,500	
						H. A. Moses				1,100.00	1,100	
						J. J. Moyn'h'n				900.00	None	
						W. B. Lincoln				1,100.00	None	
						F. O. Smith				1,000.00	None	
						F. F. Clark				300.00	None	
						A. P. Hawley				107.00	1,500	
" 8			156 Spring St.	Frame	J. C. & S. O. S'k't		Dwelling	10.82	2,000			Exposure.
					J. Swaine		Dwelling	75.00	1,000			
" 8	3:20 p.m.	23	53 Market St.	Brick	F. B. Taylor	A. A. Chilson	Store	500.00	500	25.00	4,000	Defective chimney.
						J. Sullivan		125.00	23,500			
" 8	4:42 p.m.	96	113 Hancock St.	Frame	A. H. Phillips	F. W. Bruso	Dwelling	164.00	1,300	302.37	1,000	Children and matches.
" 8	7:03 p.m.	462	128 Washburn St.	Frame	J. Abranofsky	J. Abranofsky	Dwelling	300.00	2,800	400.00	500	Unknown.
						N. Morin				55.00	1,000	
" 8	9:38 p.m.	41	116 Ferry St.	Brick	H. Alpert	L. Grapper	Store & sp'm't	600.00	30,000	90.00	700	Accident to oil stove.
						Radding & Co.				1,500.00	None	
" 9	8:51 a.m.	Tel.	214 W'th'gt'n St.	Brick	J. Driscoll	Oliver & Howland	Store					Careless with match.
" 9	6:35 p.m.	still	Ft. Pleasant Ave.	Trolly car								Trolly car.
" 10	5:36 a.m.	Tel.	61 Congress St.	Chimney								Chimney fire.
" 10	12:57 p.m.	631	273 Longhill St.	Brick	Mrs. F. I. Burnh'm	Mrs. F. I. Burnh'm	Dwelling	1,200.00	3,000	577.00	1,000	Sparks from chimney.
" 10	4:59 p.m.	Tel.	375 State St.	Chimney	G. A. Russell							Chimney fire.
" 11	3:30 p.m.	624	52 Kensingt'n Ave.	Frame	Ellen C. Hersey	D. T. Bachand	Dwelling	375.00	5,000	150.00	None	Unknown.
" 11	9:07 p.m.	91	25 Burr St.	Frame	M. A. Maynard	F. G. Dye	Dwelling	300.00	3,500	50.00	500	Overheated furnace.
						G. P. Dubois				95.00	1,000	
" 11	11:00 p.m.	Ther.	58 Harrison Ave.	False								False alarm.
" 11	11:40 p.m.	23	124 Dwight St.	Brick	M., P. & Wheat	Salvation Army	Store	32.20	5,000	None		Incendiary.
" 12	1:00 a.m.	Tel.	Foot of Cypress St.	Freight car								Stove in car.
" 13	4:58 a.m.	41	Railroad Terrace.	Brick	R. R. Y. M. C. A.	R. R. Y. M. C. A.		96.32	21,200	85.55	2,800	Unknown.
" 13	7:27 a.m.	Tel.	Rush Ave.	Frame			Dwelling					Oil stove.
" 13	12:13 p.m.	still	Indian Orchard	Automobile	Smith & Murray							Automobile.
" 13	5:25 p.m.	78	108 Greenwood St	Frame	L. Katler	A. Walitzky	Dwelling	202.00	5,000	275.00	500	Unknown.
" 13	5:36 p.m.	13	310 State St.	Brick	W. H. Pomeroy	W. H. Pomeroy	Dwelling					Chimney fire.
" 14	7:50 a.m.	still	24 Mill St.	Frame			Dwelling					Hot ashes.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Feb. 14	8:51 a.m.	962	77 Quincy St....	Frame....	C. W. Cape.....	J. L. Steward R. H. Gibson..	Dwelling....	$1,115.00	$2,600	$117.75 100.00	$500 None	Thawing water pipe.
" 14	7:25 p.m.	75	31 Ringgold St...	Frame....	D. Cohen.....	S. Orenstein... W. J. Kennedy B. Boon.....	Dwelling....	320.00	5,000	85.00 50.00 60.00	1,000 500 600	Unknown.
" 15	5:55 p.m.	Tel.	Warner Ave.....	Dump.....								Dumping grounds.
" 15	9:33 p.m.	Tel.	41 Linden St.....	Frame....	Ellen Sheehan...	Ellen Sheehan...	Dwelling....	18.00	2,000	None		Escaping gas.
" 16	12:02 a.m.	still	36 Vernon St....	Brick.....								Defective wiring.
" 17	12:41 p.m.	Tel.	70 W'th'gton St..	Brick.....								Meat on stove.
" 18	10:10 a.m.	still	426 Dwight St...	Brick.....	Steam Power Co.	SomersCr'm'y Co	Store.....	17.25	5,500	None		Careless with match.
" 18	8:30 p.m.	still	18 Alert St.....	Chimney..								Chimney fire.
" 19	3:45 p.m.	28	119 Water St....	Brick.....	Mrs. J. E. Lincoln.	M. O'D'nn'll&Lee	Lodging h'se.	85.00	2,000	18.10	500	Oil stove.
" 19	11:03 p.m.	Tel.	Crossett Ave.....	Frame....	J. J. McCarthy Es.	J. J. McCarthy Es.	Barn.....	Slight		None		Careless smoking.
" 22	11:07 a.m.	Tel.	45 Linden St....	Chimney..								Chimney fire.
" 22	1:44 p.m.	Tel.	121 State St.....	Brick.....	Brewer Est.....	A. L. Leary.....	Store.....	None		60.00	2,500	Electric flatiron.
" 23	5:15 p.m.	36	293 Water St....	Brick.....	J. Aronstan.....	J. Limsky.....	Dwelling....	None		50.00	300	Accident with candle.
" 24	4:09 a.m.	57	852 State St.....	Frame....	M. A. Maynard..	M. A. Maynard..	Factory.....	333.34	500	794.00	2,400	Heat from boiler.
" 24	12:05 p.m.	Tel.	Indian Orchard..	Grass.....								Grass fire.
" 24	4:17 p.m.	Tel.	Liberty St.....	Rubbish...	S. Wh. Gr'cy Co..							Children playing w. fire.
" 24	8:32 p.m.	612	5 South St.....	Frame....	F. J. Richards...	J. F. Cote.....	Dwelling....	50.00	200	200.00	None	Oil lamp.
" 25	2:07 p.m.	271	76 Water St.....	Frame....	E. W. Bemis....	M. Zolski.....	Dwelling....	None		Slight		Oil lamp.
" 26	2:25 p.m.	Tel.	70 Prospect St...	Frame....	M. F. Hancock..	M. F. Hancock..	Dwelling....	33.00	4,200	None		Careless workman.
" 28	7:59 a.m.	41	45 Ferry St.....	Brick.....	S. Joseph.....	S. Joseph.....	Store.....	25.00	9,000	None		Overheated stovepipe.
" 28	8:15 a.m.	still	2 Main St.....	Brick.....	E. F. Leonard...	E. G. Leopoulos..	Store.....	75.00	26,500	136.54	3,600	Overheated furnace.
" 28	12:11 p.m.	still	R. 18 Hooker St.	Rubbish...								Rubbish.
" 29	1:36 p.m.	Tel.	92 Wilbraham Ave	Frame....	C. C. Abbey....	A. L. J. Letender.	Dwelling....	50.00	3,000	126.00	1,000	Careless smoking.
" 29	2:58 p.m.	36	30 Mechanic St..	Frame....	C. T. Healy.....		Dwelling....	Slight		None		Sparks from chimney.
Mar. 1	7:55 p.m.	Tel.	103 Fulton St....	Chimney..								Chimney fire.
" 3	9:48 a.m.	Tel.	103 Lowell St....	Chimney..								Chimney fire.
" 3	11:57 a.m.	Tel.	Alden St.....	Brush.....								Brush fire.
" 3	1:33 p.m.	still	Foot of Holyoke St.	Freight car	B. & M. R. R. Co.							Unknown.
" 3	3:48 p.m.	Ther.	Mill St.....	Brick.....	Spfd. Waste Co.	Spfd. Waste Co.	Factory.....					Defective thermostat.
" 3	5:00 p.m.	Tel.	S'm'r Av. & White	Dump.....								Dumping grounds.
" 3	5:30 p.m.	271	93 Water St.....	Brick.....	Phelps Realty Co	G. Pisani.....	Store.....	25.00	4,500	257.25	1,100	Unknown.
" 4	3:09 a.m.	Tel.	149 Wason Ave..	Brick.....	Powers Paper Co	Powers Paper Co	Factory.....					Dynamo.
" 4	1:15 p.m.	Tel.	Oak Grove St....	Gr'ss&fe'ce								Sparks from locomotive.
" 4	1:48 p.m.	Tel.	77 Elliott St....	Frame....	P. Angiers.....	P. Angiers.....	Dwelling....	75.00	3,600	None		Careless with gasoline.
" 4	5:25 p.m.	Tel.	Albany St.....	Dump.....								Dumping grounds.
" 5	10:34 a.m.	Tel.	600 Union St....	Frame....			Dwelling....					Rags under sink.
" 5	2:47 p.m.	Tel.	Monmouth St....	Grass.....								Grass fire.
" 5	7:58 p.m.	Tel.	Charles St.....	Frame....	B. & A. R. R. Co..	T. J. Sullivan...	Office.....					Overheated stove.
" 8	4:45 p.m.	still	Charter Ave.....	Automobile								Automobile
" 8	6:30 p.m.	Tel.	370 Belmont Ave.	Frame....	A. E. Buckler...	W. L. Nichols...	Dw's & st'res	12.00	11,000	5.00	1,500	Careless smoking.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Mar. 8	8:56 p.m.	79		False.....								False alarm.
" 9	3:42 p.m.	Tel.	26 Kenwood Ter..	N'dl'ss al'm								Needless alarm.
" 9	5:06 p.m.	Tel.	730 State St.....	Chimney..	E. G. Fiske.....							Chimney fire.
" 9	8:33 p.m.	431	34 Morgan St....	Frame....	Mrs. J. T. Odentz.	J. Schulz.....	Dwelling....	$75.00	$5,000	$160.00	$500	Unknown.
" 10	1:30 a.m.	Tel.	Out of town.....									East Longmeadow.
" 10	2:35 p.m.	21	531-533 Main St..	Brick.....	J.C.& P.L.Morse.	A. Jones.....				150.00	None	Careless smoking.
						H. Gillander..				15.00	None	
						I. O. Red Men.		600.00	20,000	40.00	1,600	
						J. Harrison...				25.00	3,000	
						H. Armstrong.				6.50	1,200	
" 11	5:50 a.m.	67	573 Sumner Ave..	Frame....	E. J. Seaver.....	E. J. Seaver.....	Dwelling....	200.00	3,500	220.25	1,500	Careless with matches.
" 11	11:55 a.m.	still	63 Pynchon St...	Frame....	J. J. Haggerty...	A. T. Queenan..	Dwelling....	6.00	4,500	15.00	1,000	Unknown.
" 12	6:54 a.m.	Tel.	315 No. Main St.	N'dl'ss al'm								Escaping steam.
" 12	12:55 p.m.	73	1369 North St....	Frame....		H. Hayman.....	Dwelling....	None		25.00	500	Careless with match.
" 12	2:34 p.m.	57	30 Winchester St.	Frame....	J. E. Corson....	E. P. Marble....	Dwelling....	442.00	2,000	150.00	None	Children and matches.
" 15	6:10 p.m.	Ther.	Harrison Ave....	False.....								Defective thermostat.
" 17	12:50 a.m.	still	State St.....	Trolly car.								Trolly car.
" 17	7:38 p.m.	7	96 Congress St...	Frame....	S. Weiber.....	T. Walsh.....	Dwelling....	Slight		None		Hot ashes.
" 18	11:30 a.m.	still	R. R. Station...	Freight car.	B. & A. R. R. Co..							Rubbish.
" 19	9:57 p.m.	78	305 Chestnut St..	Frame....	M. Greenberg...	M. Greenberg...	Dwelling....	22.50	5,000	200.00	1,500	Unknown.
" 20	9:31 a.m.	35	43 Park St.....	Frame....	Smith Estate....	L. C. Krupke ...	Dwelling....					Meat on stove.
" 20	6:35 p.m.	Tel.	Indian Orchard..	Grass.....								Grass fire.
" 21	3:50 p.m.	462	9 Orchard St....	Frame....	Mrs. J. E. Lincoln.	J. Hughes.....	Dwelling....	200.00	1,200	250.00	800	Careless with matches.
" 22	3:42 p.m.	78	False.....									False alarm.
" 22	5:23 p.m.	Tel.	Rear 233 W'r'gt'n	Kettle of tar								Kettle of tar.
" 23	2:58 a.m.	Tel.	76 Norwood St...	Frame....	V. & F. Checholi.	V.& F.Checholi	Store & dw'ng	75.00	2,000	99.81	700	Matches.
						B. Saine.....				5.00	500	
" 24	9:07 a.m.	382	Margaret St.....	Brick.....	Sp'gfd St.R.R.Co							Electric spark.
" 25	8:13 p.m.	Tel.	67 St. James Ave.	Chimney..								Chimney fire.
" 25	10:40 p.m.	Tel.	190 Main St.....	Rubbish...								Rubbish.
" 26	6:25 p.m.	Tel.	1166 W'rth'gt'n St.	Chimney..								Chimney fire.
" 26	7:08 p.m.	Tel.	76 Ferry St.....	N'dl'ss al'm								Rubbish.
" 26	7:21 p.m.	462	Hampden Park..	Frame....	P. F. Shea.....	None.....	Dwelling....	100.00	None	None		Incendiary.
" 27	6:45 p.m.	Tel.	Foot of Gardner St.	Freight car.								Freight car.
" 28	12:02 a.m.	Tel.	Allen St.....	Frame....	W. H. Owens....		Dwelling....	800.00	800	800.00	800	Defective chimney.
" 28	9:28 a.m.	38	34 Lombard St...	Frame....	F. B. Allen.....	W. T. Holt.....	Dwelling....	None		14.00	500	Children and matches.
" 30	6:32 a.m.	Ther.	201 W'rth'gt'n St.	Brick.....	McIntosh & Co.	McIntosh & Co.						Spark from fireplace.
" 30	9:58 a.m.	76	172 Carew St....	Brick.....	B. Radding.....							Lumber in rear of boiler.
" 30	3:20 p.m.	Tel.	Walnut St.....	Automobile								Automobile.
" 30	11:45 p.m.	still	Chestnut St.....	Trolly car.								Trolly car.
" 31	1:00 p.m.	Tel.	Wilbraham Road.	Grass.....								Grass fire.
" 31	1:58 p.m.	Tel.	Bay St. O. G. Cem.	Grass.....								Grass fire.
" 31	6:54 p.m.	Tel.	Bay St. O. G. Cem.	Gr'ss & fe'ce								Grass and fence.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings. Loss on	Buildings. Ins. on	Contents. Loss on	Contents. Ins. on	Cause and Circumstances of Fire.
Apr. 1	11:35 a.m.	68	177-179 Allen St..	Frame....	L. G. Flynt.....	I. M. Whitten. C. Coburn....	Dwelling.....	$1,800.00	$3,000	$50.00 525.00	None $1,000	Children and matches.
" 1	12:23 p.m.	Tel.	Springfield St....	Grass.....								Grass fire.
" 3	8:34 a.m.	Tel.	149 Wason Ave..	Brick.....	Powers Paper Co	Powers Paper Co.						Spark from locomotive.
" 3	10:47 a.m.	8	330 Dwight St...	Brick.....	Mary D. Goetting	M. E. Neylon. TheTuoheyCo. F. G. Jensen.. Yerxa& Hudg's W. S. Rogers.. J. J. Cotter Co		1,020.00	25,750	468.62 147.42 140.00 50.00 10.00 None	1,000 2,500 3,000 300 1,000	Careless use of gasoline.
" 3	7:30 p.m.	Tel.	Indian Orchard..	Rubbish...								Rubbish.
" 3	9:25 p.m.	96	100 Hancock St...	Frame....	Mrs.F.A.Smith A. M. Clapp..	E. Ward.....	Dwelling....	115.00	3,000	10.00	None	Careless smoking.
" 4	10:20 a.m.	Tel.	State St.....	False.....								False alarm.
" 4	10:27 a.m.	Tel.	140 Sharon St...	Chimney..								Chimney fire.
" 4	4:24 p.m.	5	305 Main St.....	Brick.....								Pan of grease.
" 4	6:01 p.m.	273	Myrick Bldg.....	False.....								False alarm.
" 4	7:45 p.m.	Tel.	Indian Orchard..	Grass.....								Grass fire.
" 5	9:50 a.m.	still	Walnut St.....	Chimney..	Crowley Estate..							Chimney fire.
" 5	11:04 a.m.	923	26 Suffolk St....	Frame....	A. C. Olmstead..	A. C. Olmstead..	Dwelling....	21.51	2,700	7.00	600	Waste paper in chute.
" 5	5:03 p.m.	Tel.	W'r'gt'n&Sp'g Sts	N'dl'ss al'm								Back draft.
" 5	6:50 p.m.	Tel.	Indian Orchard..	Brush.....								Brush fire.
" 5	6:55 p.m.	742	Chicopee Road...	Brush.....								Brush fire.
" 6	10:50 a.m.	Tel.	163 Bridge St....	Brick.....	J. Q. Doyle.....	G. Crawshaw....						Children and matches.
" 6	6:58 p.m.	Tel.	120 Main St.....	Brick.....	Scott Bros.....	H. Lewis.....						Overheated dynamo.
" 7	12:45 p.m.	Tel.	King St. Extens'n	Grass.....								Grass fire.
" 7	3:13 p.m.	Tel.	Sumner Ave.....	Forest.....								Forest fire.
" 7	3:55 p.m.	Tel.	Allen St.....	Forest.....								Forest fire.
" 7	4:00 p.m.	Tel.	Indian Orchard..	Brush.....								Brush fire.
" 8	10:50 a.m.	Tel.	36 Amherst St...	N'dl'ss al'm								Back draft.
" 8	11:50 a.m.	Ther.	Hillman St.....	False.....								False alarm.
" 8	11:52 a.m.	73	594 Chestnut St..	Cement...	A. Aristopulu....	A. Aristopulu...		47.00	1,000	340.00	2,000	Gas stove.
" 8	9:26 p.m.	Tel.	Cumberland St..	N'dl'ss al'm								Drying plaster.
" 9	1:41 a.m.	63	242 Ft. Pl'sant Ave	Brick.....	M. Ascher.....	H. S. Graves....	Dwelling....	554.00	18,000	75.00	500	Rubbish.
" 9	2:40 a.m.	still	31 Dwight St....	Brick.....	M. Ehrlich.....	E. B. Arms.....		90.00	17,500	1,500.00	4,000	Short circuit.
" 9	9:40 p.m.	Tel.	Dickinson St....	Chimney..								Chimney fire.
" 10	12:53 p.m.	36	Bliss St.....	Brick.....	S. Gas Light Co.	S. Gas Light Co.						Tar kiln.
" 10	7:45 p.m.	Tel.	State St.....	False.....								False alarm.
" 11	9:25 a.m.	still	60 Margaret St...	Rubbish...								Rubbish.
" 11	9:57 a.m.	Tel.	Toll Bridge.....	Bridge....								Unknown.
" 11	8:15 p.m.	still	Laurel Ave.....	Grass.....								Grass fire.
" 11	9:35 p.m.	still	Alert St.....	False.....								False alarm.
" 12	6:37 a.m.	352	623 Main St.....	Brick.....	Mrs. A. E. Neale.	Mrs. A. E. Neale.	Dwelling....	37.50	4,500	90.00	1,000	Child and match.
" 12	10:05 a.m.	Tel.	Pynchon St.....	Concrete..	Forbes & Wallace	Forbes & Wallace		Slight		Slight		Grease flue.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Apr. 13	1:00 p.m.	Tel.	St. James Ave.	Grass.								Grass fire.
" 14	8:03 a.m.	621	372 Belmont Ave.	Frame.								Escaping steam.
" 14	12:03 p.m.	27	Water St.	Chimney.								Chimney fire.
" 15	3:44 a.m.	Tel.	25 Mattoon St.	N'd'ss al'm								Broken gaspipe.
" 15	9:52 p.m.	421	59 Tenth St.	Frame.	Eli Herd.	Eli Herd.	Dwelling	$60.00	$3,000	$125.00	$1,000	Candle and curtain.
							Shed					Unknown.
" 16	2:52 a.m.	Tel.	Norris St.	Frame.								
" 16	11:10 a.m.	76	Grosvenor St.	Lime.	B. Radding.							Lime.
" 16	9:39 p.m.	41	10 Boylston St.	Brick.	J. Menard.	W. J. Spaner. / Wet Wash Ldy.		500.00	2,500	617.30 / 30.00	1,500 / 800	Unknown.
" 16	10:05 p.m.	671	False.									False alarm.
" 17	3:05 a.m.	41	10 Boylston St.	Brick.	J. Menard.							Rekindl. of former fire.
" 17	3:47 p.m.	Tel.	Carew St.	Grass.								Grass fire.
" 20	1:52 p.m.	Tel.	Langdon St.	Brush.								Brush fire.
" 21	1:18 p.m.	Tel.	216 Armory St.	Frame.	T. J. O'Brien.	A. O. Baker.	Dwelling	9.50	3,500	10.00	500	Children and matches.
" 21	1:30 p.m.	Tel.	Parker St., I. O.	Brush.								Brush fire.
" 21	10:54 p.m.	791	342 Liberty St.	Frame.	T. Meehan.		Store	None		12.00	400	Careless smoking.
" 22	9:09 p.m.	462	178 Plainfield St.	Frame.	M. Davis.	M. Davis.	Dwelling	15.00	1,800	80.00	1,000	Accident with lamp.
" 23	5:59 p.m.	Tel.	Allen St.	Brush.								Brush fire.
" 24	9:30 a.m.	still	341 Oakland St.	Frame.			Dwelling					Chimney fire.
" 24	8:38 p.m.	791	False.									False alarm.
" 24	9:54 p.m.	Tel.	340-344 Main St.	Brick.	M. Dunn.			Slight				Unknown.
" 25	11:07 p.m.	86	236 Water St.	Frame.	Spfg. Gas Lgt. Co		Shed					Unknown.
			74 Linden St.	Frame.	M. Weinberg.		Barn	1,000.00	1,000	75.00	500	Unknown.
" 26	11:13 a.m.	78	93-95 Everett St.	Frame.	P. J. McCarthy.		Dwelling			None		Exposure loss.
			101 Everett St.	Frame.	T. H. Fleming.		Dwelling	80.15	4,500			
" 26	12:54 p.m.	Tel.	Allen St.	Brush.								Brush fire.
" 26	2:40 p.m.	still	Indian Orchard.	Brush.								Brush fire.
" 26	7:01 p.m.	Tel.	North End Bridge	Bridge.								Unknown.
" 26	9:10 p.m.	Tel.	St. James Ave.	Grass.								Grass fire.
" 26	9:16 p.m.	771	False.									False alarm.
" 26	10:33 p.m.	Tel.	Hotel Russell.	Brick.			Hotel	Slight				Careless smoking.
" 26	10:34 p.m.	Tel.	Bay Road.	Brush.								Brush fire.
" 26	11:08 p.m.	Tel.	Shattuck St.	Dump.								Dumping grounds.
" 27	5:30 a.m.	Tel.	74 Linden St.	Frame.			Shed					Rekind. of former fire.
" 27	8:21 a.m.	still	42 Auburn St.	Chimney.								Chimney fire.
" 27	8:25 a.m.	Tel.	86 Woodside Ter.	Brick.	P. W. Holenstein	E. W. Loewenberg	Dwelling	198.00	25,000	250.00	None	Child and matches.
" 27	4:43 p.m.	18	State St.	Brick.	St. Michael's Cth.		Church	130.45	54,000	None		Lightning.
" 27	9:00 p.m.	Tel.	Toll Bridge.	Frame.			Bridge					Careless smoking.
" 28	11:35 a.m.	Tel.	East Springfield.	Brush.								Brush fire.
" 28	3:35 p.m.	Tel.	Berkshire St., I.O.	Brush.								Brush fire.
" 28	5:00 p.m.	Tel.	False.									False alarm.
" 28	5:22 p.m.	Tel.	Off Armory St.	Brush.								Brush fire.
" 28	10:42 p.m.	Tel.	Wilbraham Road.	Brush.								Brush fire.
" 28	10:55 p.m.	Tel.	Shattuck St.	Dump.								Dumping grounds.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Apr. 29	10:00 a.m.	Ther.	Gilbert & Barker's	False.....								Accident to thermostat.
" 29	6:25 p.m.	41				R. L. Cook...				$100.00	$200	
						S. D. Vieta...				661.00	1,300	
						E. W. Oatley Co				1,679.55	25,028.80	
						Spfg. U. Pub. Co				304.34	1,500	
" 29	6:58 p.m.	41	61 Cypress St....	Brick.....	B. & A. R. R. Co.	Potter Knit Co		$9,407.17	$25,000	1,000.00	1,000	Unknown (2d alarm).
						S. Rickless...				284.70	1,000	
						W. F. Cook Co				4,359.22	5,370.76	
						Spfg. Mattr. Co				5.64	300	
						A. E. Steph. Co.				250.00	None	
						U. Cereals Co.				395.00	None	
" 30	11:45 a.m.	612	South Main St...	Frame....	F. J. Richards..	F. J. Richards..	Factory.....	250.00	33,000			Friction.
" 30	2:59 p.m.	Tel.	429 Main St.....	Rubbish...								Rubbish.
" 30	8:55 p.m.	Tel.	Boston Road.....	Chimney..								Chimney fire.
" 30	9:36 p.m.	Tel.	Sumner Ave.....	Frame....	Mrs. D. A. Chaplin	None.....	Dwelling....	45.00	6,000			Unknown.
" 30	10:51 p.m.	3	227 Main St.....	Brick.....	Donahue Bros...	M'g'n & Cros'n.		1,600.00	40,000	40.00	3,000	Unknown.
						H. Schrieber..				75.00	8,000	
May 1	4:09 a.m.	Tel.	227 Main St.....	False.....								False alarm.
" 1	5:35 a.m.	Tel.	61 Cypress St....	Brick.....								Rekindl. of former fire.
" 1	12:47 p.m.	2	259 Main St.....	Awning....	W. F. Young....	Guar. Shoe Co...		None		60.00	6,000	Careless smoking.
" 1	2:55 p.m.	Tel.	Boston Road.....	Grass.....								Grass fire.
" 1	6:35 p.m.	Tel.	Indian Orchard..	Grass.....								Grass fire.
" 1	9:15 p.m.	Tel.	47 Seventh St....	Frame.....	G. W. Moynihan	G. W. Moynihan	Dwelling....	None		116.50	1,500	Clothing in gas jet.
" 1	10:25 p.m.	41	210 Main St.....	Brick.....	Holbrook Estate.	J. Price.....		None		45.00	1,800	Careless with matches.
" 2	6:11 p.m.	Tel.	61 Cypress St....	Hay.....								Incendiary.
" 2	6:16 p.m.	Tel.	King St. Exten..	False.....								False alarm.
" 2	8:45 p.m.	934	Wilbraham Road.	Brush.....								Brush fire.
" 2	8:51 p.m.	still	North End Bridge	Bridge.....								Careless smoking.
" 3	12:02 p.m.	Tel.	Pecousic Ave....	Frame....			Dwelling....					Chimney fire.
" 3	12:50 p.m.	Tel.	White St.....	Brush.....								Brush fire.
" 3	12:55 p.m.	Tel.	Indian Orchard..	Brush.....								Brush fire.
" 3	2:10 p.m.	Tel.	Indian Orchard..	Brush.....								Brush fire.
" 3	2:35 p.m.	Tel.	Harvey St.....	Grass.....								Grass fire.
" 3	4:00 p.m.	still	Liberty St.....	Sawdust...								Sawdust.
" 4	4:15 p.m.	still	Clantoy St.....	Brush.....								Brush fire.
" 4	4:40 p.m.	96	117 Tyler St.....	Frame....	C. B. Kingsbury.	C. B. Kingsbury						
						Smith & M'rr'y	Barn.....	65.00	1,200	None		Careless with gasoline.
" 4	8:25 p.m.	still	Indian Orchard..	Brush.....								Brush fire.
" 5	7:30 a.m.	still	13 Essex St.....	Chimney..								Chimney fire.
" 5	1:45 p.m.	Tel.	North St.....	Rubbish...								Rubbish.
" 5	1:45 p.m.	still	743 State St.....	Brick.....	Wesley M.E.C'h.	Wesley M.E.C'h.	Church.....					Hot ashes.
" 6	9:51 a.m.	291	210 State St.....	Brick.....	SpfdGasLightCo.	SpfdGasLightCo.						Spontaneous combust.
" 6	2:20 p.m.	Tel.	North Wilbraham	Out of town	B. & A. R. R. Co.							Out of town.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
May 6	7:27 p.m.	73	False.....									False alarm.
" 7	6:56 p.m.	Tel.	118 Essex St.....	Chimney..								Chimney fire.
" 7	8:07 p.m.	771	False.....									False alarm.
" 7	11:58 p.m.	21	114 State St.....	Brick.....	C. T. Shean.....	J. B. Shear... J. S. Balloch.. G. H. Wrenn. I. Hornstein..		$970.00	$4,000	$25.00 None None 85.00	None $1,000	Unknown.
" 8	4:08 p.m.	Tel.	352 Main St.....	N'dl'ss al'm								Escaping steam.
" 9	6:45 a.m.	Tel.	142 Union St....	Chimney..								Chimney fire.
" 9	1:18 p.m.	Tel.	Allen St.....	Brush.....								Brush fire.
" 11	1:30 p.m.	Tel.	Chilson St.....	Brush.....								Brush fire.
" 11	2:17 p.m.	7	608 North St....	Brick.....	Simcovits...	M. Brown.....		300.00	10,000	1,500.00	3,000	Unknown.
" 11	4:35 p.m.	Tel.	Ingersoll Grove..	Dump.....								Dumping grounds.
" 11	5:43 p.m.	271	83 Water St.....	Brick.....	Winkler Estate..	V. M. Frost.....		None		219.50	1,500	Gasoline.
" 12	3:20 p.m.	78	11 Linden St.....	Frame.....	S. Slonimsky....	S. Slonimsky....	Dwelling....	50.00	4,000	90.00	500	Unknown.
" 12	7:16 p.m.	29	Water St.....	N'dl'ss al'm	Spfg.GasLightCo							Stack.
" 14	1:02 p.m.	Tel.	Allen St.....	Grass.....								Grass fire.
" 15	1:05 p.m.	Ther.	South Main St...	Brick.....	Bemis & Call....	Bemis & Call....						Sparks from forge.
" 16	10:23 a.m.	Tel.	345 Main St.....			A. Steiger Co....						Back draft.
" 17	1:49 p.m.	Tel.	Toll Bridge.....	Bridge.....								Careless smoking.
" 18	8:45 a.m.	Tel.	82 Waltham Ave.	Frame.....	E. C. Brownell..	E. C. Brownell..	Shed.....					Sparks from locomotive.
" 18	10:56 a.m.	472		False.....								False alarm.
" 18	1:14 p.m.	271	Toll Bridge.....	Bridge.....								Cigar end.
" 18	8:57 p.m.	254	Liberty St.....	Brick.....	J. Ginsberg.....	D. Burwick.....	Dwelling....	25.00	11,000	78.00	800	Child and matches.
" 19	8:55 p.m.	Tel.	80 Randall Ave..	Frame.....	E. Langevin.....	E. Langevin.....	Dwelling....					Child and lamp.
" 20	5:23 p.m.	Tel.	North End Bridge	Bridge.....								Unknown.
" 21	12:22 a.m.	still	State St.....	Trolly car.								Trolly car.
" 21	10:45 a.m.	still	11 Dymon St....	Frame.....			Dwelling....					Meat on stove.
" 21	2:09 p.m.	Tel.	271 Belmont Ave.	N'dl'ss al'm								Back draft.
" 21	2:25 p.m.	Tel.	229 Longhill St...	N'dl'ss al'm								Back draft.
" 21	2:40 p.m.	Tel.	552 Main St.....	N'dl'ss al'm								Back draft.
" 21	2:50 p.m.	Tel.	61 Vernon St....	N'dl'ss al'm								Back draft.
" 21	6:51 p.m.	7	663 North St....	Brick.....		B. A. Bergman..						Careless with gasoline.
" 22	1:45 p.m.	Ther.	Harrison Ave....	False.....								Defective thermostat.
" 22	7:24 p.m.	Tel.	Lamont St.....	Hay.....								Incendiary.
" 22	7:50 p.m.	Tel.	46 Harrison Ave.	Brick.....	D. H. Morgan..	Bullock Mfg. As.		None		125.00	50,000	Gas oven.
" 23	6:51 p.m.	Tel.	429 Main St.....	Awning....		Adams' Dr'g Store		None		27.00	7,000	Careless smoking.
" 23	9:30 p.m.	still	Locust St.....	Trolly car.								Trolly car.
" 24	4:05 a.m.	471	21 Jefferson Ave.	Frame.....	H. Morgan.....	Butler Beef Co..	Barn.....	781.66	800	1,250.00	2,500	Unknown.
			17 Jefferson Ave.	Frame.....	Clara D. Wells..		Barn.....	10.00	1,000			Exposure loss.
" 24	12:10 p.m.	Tel.	Phoenix St.....	Brush.....								Brush fire.
" 24	12:23 p.m.	462	55 Orchard St...	Frame.....	S. Solnin.....	S. Solnin.....	Dwelling....	100.00	8,000	150.00	700	Child and matches.
" 24	12:35 p.m.	Tel.	Indian Orchard..	Brush.....								Brush fire.
" 24	2:22 p.m.	Tel.	Belmont & White	Brush.....								Brush fire.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
May 24	2:58 p.m.	Tel.	North End Bridge	Bridge								Unknown.
" 24	4:33 p.m.	Tel.	125 W'rth't'n St.	Awning		M. H. Curran		None		$9.25	$2,000	Careless smoking.
" 25	9:49 p.m.	42	30 Emery St.	Frame	Dr. C. C. Henin.	H. Kuminetsky	Dwelling	$100.00	$3,000	160.00	700	Careless with matches.
" 27	3:07 a.m.	623	27 Kenwood Ter.	Frame	L. M. Huntley	L. M. Huntley W. A. Stratton	Dwelling	389.00 None	4,000	None		Spontaneous combust.
" 27	11:40 a.m.	Tel.	Indian Orchard	Chimney								Chimney fire.
" 27	11:45 a.m.	still	18 Bond St.	Rubbish								Rubbish.
" 27	4:04 p.m.	4 I.O.	Indian Orchard	False								False alarm.
" 27	7:45 p.m.	still	71 William St.	Frame			Dwelling					Careless with kerosene.
" 27	8:27 p.m.	Tel.	648 Belmont Ave.	Automobile	C. V. Ryan							Short circuit.
" 29	1:14 p.m.	923	False									False alarm.
" 29	9:00 p.m.	Tel.	121 Bridge St.	Automobile	Water Dept.			None		263.00	None	Spark from lamp.
" 30	11:34 p.m.	Tel.	254 Bridge St.	False								False alarm.
June 1	10:09 p.m.	421	82½ Main St.	Brick & fra.		Kingsley & L'k'tt		150.00	5,000	50.00	None	Unknown.
" 1	10:49 p.m.	613	23 Forest Pk. Ave	Frame	H. Lasker	None	Dwelling			None		Unknown.
" 1	11:01 p.m.	923	False									False alarm.
" 2	9:18 p.m.	35	29 Park St.	Frame	N. N. Fowler		Dwelling	18.00	2,000	None		Unknown.
" 3	8:43 a.m.	Tel.	39 Dwight St.	Brick	H. W. Van Allen	A. Muselli		100.00	5,000	240.00	250	Careless with gasoline
" 3	6:02 p.m.	Tel.	92 Linden St.	Chimney								Chimney fire.
" 4	12:03 a.m.	923	False									False alarm.
" 5	9:28 a.m.	Tel.	North End Bridge	Bridge								Unknown.
" 5	6:29 p.m.	Tel.	Dickinson St.	Dump								Dumping grounds.
" 5	7:00 p.m.	23	437 Main St.	Brick	D. O. Gilmore	Flint & Brickett		320.00	60,000	None		Careless smoking.
" 5	7:55 p.m.	Tel.	King St. Exten.	Dump								Dumping grounds.
" 5	10:07 p.m.	Tel.	West St.	Dump								Dumping grounds.
" 6	7:40 a.m.	41	80 Sharon St.	Frame	F. M. Malone		Dwelling	22.00	3,000	None		Unknown.
" 7	4:45 p.m.	75	60 Church St.	Frame			Dwelling					Children and matches.
" 7	9:07 p.m.	Tel.	Ft. of Mechanic	Motorboat	H. Steinberg					300.00	400	Gasoline.
" 7	9:34 p.m.	341	787 Main St.	Brick	E. Cohen							Rubbish.
" 8	2:18 p.m.	Tel.	347 St. James Ave	Chimney								Chimney fire.
" 8	4:37 p.m.	Tel.	Hickory St.	Grass								Grass fire.
" 9	1:51 p.m.	36	Howard St.	Chimney								Chimney fire.
" 10	1:04 p.m.	13	State St.	Trolly car								Trolly car.
" 10	8:08 p.m.	41	Cypress St.	Automobile	Dr. D. I. Dodge			None		85.00	800	Prestolite tank.
" 11	9:00 a.m.	5	310 Main St.	Iron	A. Whitney	C. B. Campbell		None		75.00	None	Careless smoking.
" 11	11:15 a.m.	still	136 Oakland St.	Rubbish								Rubbish and hot ashes.
" 11	11:30 a.m.	Tel.	North End Bridge	Bridge								Unknown.
" 11	12:51 p.m.	36	83 Bliss St.	N'dl'ss al'm								Back draft.
" 11	4:30 p.m.	still	150 Bemis Place	Frame	Bondi Bros.	None	Dwelling	30.00	1,800	None		Children and rubbish.
" 11	4:35 p.m.	Tel.	Indian Orchard	Sawdust								Sawdust.
" 12	12:10 p.m.	42	74 Franklin St.	Brick	B. & L. Baver	Wm. Boerndt	Dwelling	75.00	3,500	50.00	None	Unknown.
" 12	2:01 p.m.	Tel.	27 John St.	N'dl'ss al'm								Back draft.
" 12	5:25 p.m.	Tel.	Cherrelyn Ave.	Brush								Brush fire.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
June 13	7:09 a.m.	23	21 Sanford St....	Brick.....								Rubbish and hot ashes.
" 13	11:40 a.m.	Tel.	82 Eastern Ave..	Frame.....			Dwelling....					Shingles on roof.
" 14	7:38 p.m.	Tel.	Sterns Terrace...	Frame.....			Dwelling....					Chimney fire.
" 14	10:38 p.m.	35	88 Union St.....	Frame....	E. J. Piper.....	C. Longono... / F. T. Quilici..	Dwelling....	$42.50	$1,500	$75.00 / 35.00	$500 / 500	Unknown.
" 15	1:30 p.m.	still	456 W'rth't'n St..	Rubbish...								Rubbish.
" 15	8:10 p.m.	Tel.	Dickinson St.....	Dump.....								Dumping grounds.
" 16	4:41 a.m.	352	24 Wilcox St.....	Frame....	E. Cohen.....	L. Nemirove....	Dwelling....	60.00	2,000	None		Unknown.
" 17	11:55 a.m.	still	North End Bridge	Bridge....								Unknown
" 18	12:11 a.m.	87	Crescent Hill....	Brick.....	H. C. Rowley...	H. C. Rowley...	Dwelling....	602.50	20,000	165.00	6,500	Rubbish in cellar.
" 18	9:12 a.m.	still	54 Cleveland St..	Frame....			Dwelling....					Pan of grease.
" 18	1:54 p.m.	Tel.	Albany St.....	Dump.....								Dumping grounds.
" 18	4:06 p.m.	421	Main St.....	Automobile	Sampson & Co...			100.00	2,000			Gasoline.
" 18	7:06 p.m.	Tel.	Albany St.....	Dump.....								Dumping grounds.
" 18	7:10 p.m.	Tel.	North End Bridge	Bridge....								Unknown.
" 18	7:24 p.m.	73	74 Jefferson Ave..	N'dl'ss l'm								Broken lamp.
" 18	7:56 p.m.	Tel.	King St. Exten..	Brush.....								Brush fire.
" 19	12:08 p.m.	Tel.	838 Chestnut St.	Frame....	H. P. S. Kaplinger	H. P. S. Kaplinger	Dwelling....	150.00	5,000	7.50	1,000	Careless smoking.
" 19	3:57 p.m.	Tel.	Bowdoin St.....	Dump.....								Dumping grounds.
" 19	7:36 p.m.	still	Walnut St.....	Trolly car.								Trolly car.
" 20	11:09 a.m.	Tel.	Rear 615 Main St.	Rubbish...								Rubbish.
" 20	1:13 p.m.	Tel.	Penacook Ave....	Brush.....								Brush fire.
" 21	9:43 a.m.	15	79-80 Pearl St....	Frame.....	G. E. Russell....	Ellen F. Kemp / Mrs. J. O'Con'r	Dwelling....	675.00	5,000	150.00 / 117.00	None / 750	Unknown.
" 21	8:14 p.m.	462	112 Lowell St....	Frame.....	J. Goldberg.....	J. Goldberg.....	Dwelling....	None		25.00	600	Candle and curtain.
" 21	11:18 p.m.	462	False.....									False alarm.
" 22	2:52 p.m.	Tel.	Murray Hill Ave.	Dump.....								Dumping grounds.
" 23	10:15 a.m.	still	State St.....	Trolly car.								Trolly car.
" 23	3:34 p.m.	273	False.....									False alarm.
" 24	7:22 a.m.	Tel.	West St.....	Dump.....								Dumping grounds.
" 24	8:23 p.m.	still	Hayden St.....	N'dl'ss al'm								Back draft.
" 24	11:32 p.m.	Tel.	Plainfield St.....	Bridge....								Unknown.
" 26	1:28 p.m.	98	272 Eastern Ave.	Frame.....	K. Papafrangos.	McCarthy / Wm. Safarick. / F. E. Sullivan.	Stores & dw'g.	170.00	8,500	20.00 / 18.75 / 50.00	None / 500 / 400	Unknown.
" 27	7:55 a.m.	still	Chestnut St.....	Automobile	N. L. Byron....							Short circuit.
" 28	12:57 p.m.	4	269 Main St.....	N'dl'ss al'm								Back draft.
" 29	2:36 a.m.	still	Mill St.....	Waste mill.	Sp'field Waste Co							Spark from fan.
" 29	4:00 p.m.	Tel.	St. Jas. Av. n. Crw.	Frame.....	Bartlett & Holmes		Barn.....	500.00	500	None		Unknown.
" 29	7:59 p.m.	91	49 Montrose St..	Frame.....		G. Coville.....	Dwelling....	Slight		100.00	600	Children and matches.
" 29	9:29 p.m.	46	71 Auburn St....	Frame.....		Mrs. R. A. Collins	Dwelling....					Careless with gasoline.
" 29	10:33 p.m.	Tel.	19 East Court St.	Brick.....	F. B. Taylor....			None		None		Defective stovepipe.
" 30	8:36 a.m.	36	59 Union St.....	Frame.....		F. Gero.....	Dwelling....	None		Slight		Oil stove.
" 30	9:45 a.m.	Tel.	Indian Orchard..	Brush.....								Brush fire.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings. Loss on	Buildings. Ins. on	Contents. Loss on	Contents. Ins. on	Cause and Circumstances of Fire.
June 30	2:17 p.m.	Tel.	Rimmon Ave.	Grass								Grass fire.
" 30	4:46 p.m.	Tel.	North End Bridge	Bridge								Unknown.
" 30	5:07 p.m.	35	537 Main St.	Brick	Crossett R'lty Co.			None		None		Unknown.
" 30	8:47 p.m.	462	West St.	Dump								Dumping grounds.
" 30	9:42 p.m.	Tel.	Hickory St.	Sawdust								Sawdust.
July 1	4:31 p.m.	still	Carew St.	Brush								Brush fire.
" 2	8:24 p.m.	461	False									False alarm.
" 3	12:20 p.m.	Tel.	153 Ft. Pl'sant Av.	N'dl'ss al'm								Back draft.
" 3	12:32 p.m.	still	Safford St.	N'dl'ss al'm								Back draft.
" 3	12:35 p.m.	Tel.	Bay off Berkshire	Brush								Brush fire.
" 3	9:05 p.m.	Tel.	Sharon St.	Bonfire								Bonfire.
" 4	12:10 a.m.	Tel.	Essex St.	Bonfire								Bonfire.
" 4	1:14 a.m.	Tel.	76 Linden & Cass	Bldg.m't'r'l	J. Schaffer	None		$49.75	$7,000			Bonfire.
" 4	2:23 a.m.	743	False									False alarm.
" 4	3:54 a.m.	98	False									False alarm.
" 4	4:21 a.m.	Tel.	Essex	Bonfire								Bonfire.
" 4	8:11 a.m.	Tel.	Alden St.	Br'sh & ties				Slight				Bonfire.
" 4	11:37 a.m.	Tel.	Hickory St.	Brush								Brush fire.
" 4	4:58 p.m.	152	140 Chestnut St.	Brick	H'pd'n Hotel Co.	H'pd'n Hotel Co.						Grease in flue.
" 4	5:28 p.m.	75	26 Grosvenor St.	Rubb.&b'n	L. Robinson	L. Robinson		Slight		None		Rubbish.
" 4	8:58 p.m.	76	42 Grosvenor St.	Frame	A. T. Asher	N. Blanchard	Dwelling	89.00	2,000	None		Fireworks.
" 4	9:01 p.m.	still	908 Main St.	Frame	E. H. Barney		Dwelling					Fireworks.
" 4	9:18 p.m.	613	27 Chase Ave.	Frame	C. P. Thompson	C. P. Thompson	Dwelling	7.60	3,200	None		Fireworks.
" 4	9:42 p.m.	421	55 Holyoke St.	Frame	J. B. Squires		Dwelling	5.25	1,000	None		Fireworks.
" 4	9:54 p.m.	352	38 Hubbard Ave.	Frame			Dwelling					Fireworks.
" 4	10:03 p.m.	Tel.	29 Woodside Ter.	Frame	J. Thebet		Barn	6.78	2,000	None		Fireworks.
" 4	10:23 p.m.	still	Lincoln St.	Fence	U. S. A.							Fireworks.
" 4	10:26 p.m.	81	12 Walnut St.	Frame	A. Blair		Barn					Fireworks.
" 4	11:40 p.m.	Tel.	Carew St.	Brush								Brush fire.
" 5	10:40 a.m.	Tel.	22 Vernon St.	Frame	D. O. Gilmore		Shed					Unknown.
" 5	11:33 a.m.	Tel.	29 Manhattan St.	Grass								Grass fire.
" 5	12:04 p.m.	91	66 Hunter Place	Frame	M. A. Maynard	W. J. Thayer	Dwelling	15.00	900	$51.50	$500	Oil stove.
						M. Greenberg	Barn	336.00	1,150	None		
						S. Kats				84.00	445	Incendiary.
" 5	12:08 p.m.	78	309 Chestnut St.	Frame	M. Greenberg	M. Brood				50.00	300	
						H. Ratner				45.00	300	
						H. Goodman				45.00	300	
" 5	12:28 p.m.	Tel.	Hickory St.	Sawdust								Unknown.
" 5	1:02 p.m.	453	787 North St.	Brick	E. Chesler	H. Kanner		70.00	15,000	40.00	500	Unknown.
						Berg Bros.				275.00	3,000	Incendiary.
" 5	1:37 p.m.	41	159 Main St.	Brick	F.,C.&Richmond	Mrs.L.E.Barry		3,069.00	42,000	75.00	1,600	
" 5	2:18 p.m.	42	117 Main St.	Brick	J. C. & P. Morse	L. E. Brown		50.00	12,500	150.44	3,000	Careless with matches.
" 5	2:22 p.m.	Tel.		Bridge								Unknown.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
July 5	2:40 p.m.	421	24 Clinton St	Brick	Mary Saffer			$793.50	$15,000	Slight		Incendiary.
" 5	2:40 p.m.	45	60 Clinton St	Frame	Sarah McGill	Sarah McGill.. J. Mooney.. E. Smith	Barn	100.00	None	$10.00 25.00	$1,000 None	Incendiary.
			65 Vine St	Frame	J. J. Shea		Dwelling	40.00	3,000	None		Exposure loss.
" 5	3:47 p.m.	762	Chestnut St	Stone	Sacred Heart Soc.			750.00	150,000	3,000.00		Incendiary.
" 5	5:35 p.m.	Tel.	Berkshire St	Forest								Forest fire.
" 5	7:37 p.m.	78	84 Linden St	Frame	J. J. Crowley	J. J. Crowley	Barn	None		52.00	1,000	Incendiary.
" 6	11:04 a.m.	Tel.	16 Churchill St	Rubbish	W.D.&E.G.Vin'g			Slight		None		Boys roasting corn.
" 6	4:13 p.m.	Tel.	Cortland St	Hay & grass								Grass fire.
" 6	11:37 p.m.	271	97 Water St	Brick	Forbes & Wallace	J. J. O'Brien	Dwelling					Broken lamp.
" 7	12:55 a.m.	934	404 Wilbraham Rd	Frame	H.O.Pease Estate	D. Johnson.. J. Surprenant.	Barn	900.00	1,000	2,000.00 650.00	500 2,000	Unknown.
" 7	1:50 p.m.	Tel.	Stadium	Forest								Forest fire.
" 7	2:35 p.m.	Tel.	Indian Orchard	Brush								Brush fire.
" 8	11:28 a.m.	Tel.	Carew St	Automobile	Dr. P. M. Lynch					460.00	460	Gasoline.
" 8	1:57 p.m.	Tel.	Advent Camp Gr.	Brush								Brush fire.
" 8	5:30 p.m.	14	71 Summer St	Frame	Theresa Celino	C. Marchette	Barn	1.00	500	Slight		Unknown.
" 8	5:46 p.m.	Tel.	False									False alarm.
" 9	10:24 a.m.	Tel.	Bond St	Rubbish								Malicious mischief.
" 9	1:40 p.m.	still	Main n. Margaret	Trolly car.								Trolly car.
" 9	3:09 p.m.	still	23 Carew St	Brick	H. Steinberg	H. Steinberg		15.00	5,000	67.50	300	Careless with gasoline.
" 9	5:20 p.m.	Tel.	Upper Liberty St.	Brush								Brush fire.
" 9	7:38 p.m.	45	False									False alarm.
" 9	10:06 p.m.	624	Oakland St	Load of hay.	Wm. Barry					20.00	None	Unknown.
" 10	10:10 a.m.	Tel.	Magnolia Terrace	Grass								Grass fire.
" 10	1:10 p.m.	Ther.	Harrison Ave	False								Defective thermostat.
" 10	7:15 p.m.	still	75 Eastern Ave.	Chimney								Chimney fire.
" 10	8:17 p.m.	14	11 Summer St	Frame	S. Jacobs	H. A. Bragg	Dwelling	Slight		3.00	None	Curtain and gas jet.
" 11	1:37 p.m.	Tel.	Cherrelyn Ave.	Brush								Brush fire.
" 11	5:09 p.m.	Tel.	Phoenix St	Brush								Brush fire.
" 12	11:25 a.m.	Tel.	15 Churchill St.	Frame	W. R. Heady	W. R. Heady	Dwelling	17.19	3,500	9.00	1,000	Careless with matches.
" 12	5:30 p.m.	Tel.	207 State St	Brick	Ch. of the Unity	Rev. A. Record	Dwelling					Careless workman.
" 14	3:02 p.m.	45	False									False alarm.
" 14	3:20 p.m.	still	Berkshire St., I. O	Grass								Grass fire.
" 15	3:45 p.m.	Tel.	North End Bridge	Bridge								Unknown.
" 15	7:58 p.m.	Tel.	74 Everett St	N'dl'ss al'm								Unknown.
" 19	2:40 p.m.	Tel.	Allen St	Grass								Grass fire.
" 19	5:25 p.m.	Tel.	53 Wilbraham Rd.	Brick	Knox Auto Co.	Knox Auto Co.	Factory					Careless with gasoline.
" 19	8:15 p.m.	77	225 Liberty St.	Brick	F. M. West Co.		Factory					Spark from locomotive.
" 19	12:01 a.m.	48	261 N. Main St.	Brick	W. H. Ruscoe	F.A.Keeney & Co.		30.00	30,000	20.00	1,000	Careless smoking.
" 20	12:25 p.m.	Tel.	North End Bridge	Bridge								Unknown.
" 20	12:59 p.m.	34	30 Fremont St.	Shavings	Geo. Russell							Unknown.
" 20	2:46 p.m.	624	False									False alarm.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings. Loss on	Buildings. Ins. on	Contents. Loss on	Contents. Ins. on	Cause and Circumstances of Fire.
July 20	3:24 p.m.	981	Needless Alarm									Burning wire.
" 20	3:44 p.m.	421	37 Essex St.	Frame	J. W. Murtagh		Dwelling	Slight		None		Sparks from stack.
" 20	4:37 p.m.	36	127-129 Wilcox St	Frame	G. Rizzo	F. Russo A. Mottolo A. D'Amato A. Aldi	Dwelling			$150.00 75.00	$1,000 None	Sparks fr. locomotive.
" 20	8:15 p.m.	still	81 Marion St.	Frame	A. J. Kellogg	J. Tigh	Dwelling					Accident to oil lamp.
" 21	1:18 a.m.	462	93 Orchard St.	Frame	T. E. O'Connor	T. E. O'Connor	Dwelling	$20.00	$1,500	5.00	None	Careless smoking.
" 21	6:50 a.m.	still	West St.	Dump								Dumping grounds.
" 23	12:40 p.m.	still	Miller St.	Grass								Grass fire.
" 23	3:11 p.m.	421	50 Clinton St.	Brick	Gagnier Bros.	None		315.00	10,000			Careless workman.
" 24	11:20 a.m.	59	Cornell Place	Grass								Grass fire.
" 24	2:14 p.m.	still	Chicopee Road	Brush								Brush fire.
" 24	2:30 p.m.	still	Locust St.	Trolly car								Trolly car.
" 24	7:44 p.m.	Tel.	Chicopee Road	Brush								Brush fire.
" 24	8:34 p.m.	452	199 Sharon St.	Brick&fra								Lamp and curtain.
" 24	9:17 p.m.	271	94 Bridge St.	Brick	Elvira K. Myrick	M. Levin & Co.		972.00	40,000	2,481.80	3,500	Unknown.
" 24	9:20 p.m.	6	94 Bridge St.	N'dl'ss al'm								Duplicate alarm.
" 24	9:34 p.m.	28	60 Vernon St.	Rubbish								Rubbish.
" 25	12:20 p.m.	still	Boston Road	Brush								Brush fire.
" 25	7:24 p.m.	Tel.	131 Cambridge St	Frame	R. King	None	Dwelling	15.00	5,000			Children playing w. fire.
" 26	11:06 a.m.	342	11 York Ave.	Frame	M. L. James	M. L. James	Dwelling	45.00	1,500	19.00	1,000	Oil stove.
" 26	5:14 p.m.	45	False									False alarm.
" 27	3:23 p.m.	still	21 Wait St.	Frame			Dwelling					Gas stove.
" 28	12:10 a.m.	still	North End Bridge	Bridge								Unknown.
" 28	3:35 p.m.	still	Indian Orchard	Trolly car								Trolly car.
" 28	5:50 p.m.	still	95 Keith St.	N'dl'ss al'm								Back draft.
" 29	3:38 p.m.	682	479 Allen St.	Frame	Mrs. M. Fremont	S. Pettit	Dwelling	80.00	1,000	27.60	300	Unknown.
" 31	5:44 p.m.	Tel.	Franklin St.	Dump								Dumping grounds.
Aug. 1	6:53 p.m.	771	Franklin St.	Dump								Dumping grounds.
" 2	6:35 a.m.	Tel.	Indian Orchard	Automobile								Automobile.
" 2	7:15 p.m.	Ther.	H'pd'n Lumb. Co.	False								Defective thermostat.
" 3	10:45 p.m.	452	284 Chestnut St.	Rubbish								Careless smoking.
" 3	11:53 p.m.	743	False									False alarm.
" 4	7:15 p.m.	612	South Dump									Dumping grounds
" 4	8:00 p.m.	still	Off Franklin St.	Dump								Dumping grounds.
" 5	10:04 a.m.	462	227 Plainfield St.	Frame	M.S.ConverseCo.	M.S.ConverseCo.	Barn	400.00	400	180.00	180	Sparks from locomotive.
" 6	9:02 a.m.	still	198 High St.	Frame	L. Scheuing	C. S. Thayer	Dwelling		2,000	100.00	None	Careless with candle.
" 7	8:13 a.m.	Tel.	90 Cherry Lane	Frame	T. Shea	E. Delude	Dwelling	25.00	1,500	None	None	Gas stove.
" 8	4:40 p.m.	794	Liberty St.	Tool-box	F. T. Ley Co.							Careless with match.
" 8	9:23 p.m.	45	48 Boylston St.	Rubbish								Incendiary.
" 8	10:43 p.m.	93	Off Wilbraham Rd.	Frame	A. Bradley		Barn	500.00	None	None		Unknown.
" 9	1:29 p.m.	491	14 Alfred St.	Frame	J. B. Lupien	J. B. Lupien	Barn		200		200	Unknown.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Aug. 9	2:38 p.m.	still	Liberty St.....	Dump.....								Dumping grounds.
" 10	10:45 a.m.	still	Franklin St.....	Dump.....								Dumping grounds.
" 10	7:15 p.m.	still	West St.....	Dump.....								Dumping grounds.
" 11	1:22 a.m.	77	262 Liberty St...	Frame....	H'pd'n Brass Co.	H'pd'n Brass Co.	Shed.....	$60.47	None	None		Unknown.
" 12	3:15 p.m.	still	Laurel Ave.....	Dump.....								Dumping grounds.
" 12	6:17 p.m.	Tel.	Franklin St.....	Dump.....								Dumping grounds.
" 13	11:02 a.m.	83	296 Hancock St..	Frame....	C. W. Allen.....	J. E. Curley....	Dwelling....	7.10	$5,500	None		Rubbish.
" 13	12:45 p.m.	Tel.	St. James Ave...	Grass&bru.								Grass and brush.
" 13	2:10 p.m.	still	95 William St....	Rubbish...								Children playing w. fire.
" 13	10:50 p.m.	76 I O	Parker St., I. O...	Frame....	C. Grise.....	C. Grise.....	Barn.....	700.00	700	$3,200.00	None	Unknown.
" 14	2:33 p.m.	771	Franklin St.....	Dump.....								Dumping grounds.
" 15	1:45 p.m.	still	14 Seventh St....	Rubbish...								Hot ashes.
" 15	3:02 p.m.	28	66 Pynchon St...	Brick.....	Morse Bros.....			10.00	15,000	None		Children and matches.
" 15	7:23 p.m.	Tel.	R. 254 W'r'gt'n St.	Motorcycle								Gasoline.
" 16	10:15 a.m.	Tel.	West St.....	Dump.....								Dumping grounds.
" 16	11:15 a.m.	Tel.	Monmouth St....	Grass.....								Grass fire.
" 16	6:08 p.m.	741	False.....									False alarm.
" 17	2:55 p.m.	Tel.	State St.....	Brush.....								Wrong location.
" 17	4:00 p.m.	Tel.	East Springfield..	Brush.....								Brush fire.
" 18	12:22 a.m.	78	146 Franklin St..	Brick.....	Smith R'lty Trust	J. J. Davidson...	Store.....	147.00	700	700.00	$2,200	Unknown.
" 18	7:45 p.m.	still	32 Bond St.....	Frame....	Annie Finkelhof.	Annie Finkelhof.	Dwelling...	42.00	3,500	250.00	500	Unknown.
" 19	11:22 a.m.	795	721 Liberty St...	Frame....	L. M. Blood....	L. Lieberman...	Store.....	10.00	100	75.00	200	Careless smoking.
" 19	6:08 p.m.	still	5 South St. Court	Chimney..								Chimney fire.
" 19	9:29 p.m.	742	False.....									False alarm.
" 20	2:13 p.m.	Tel.	Allen St.....	Burn'g wire								Needless alarm.
" 21	4:15 a.m.	still	State St.....	Dump.....								Careless workman.
" 22	9:04 a.m.	574	29-31ThompsonSt	Frame....	P. Faber.....	P. Faber.....	Hotel.....	122.00	20,000	None		Overheated flue.
" 24	10:52 a.m.	Tel.	29-31ThompsonSt	Frame....	P. Faber.....	P. Faber.....	Hotel.....	20.00	20,000	None		Defective setting range.
" 24	10:55 a.m.	Tel.	Franklin St.....	Dump.....								Dumping grounds.
" 24	1:29 p.m.	Tel.	North End Bridge	Bridge....								Unknown.
" 24	9:24 p.m.	458	75 Essex St.....	Brick.....	R. Landerman...							Rubbish in cellar.
" 28	7:57 a.m.	Tel.	140 Armory St...	Chimney..								Chimney fire.
" 28	3:40 p.m.	43 I O	Indian Orchard..									
" 28	3:50 p.m.	Tel.	511 Hancock St..	Frame....	Rice & Valentine	E. Shaffer.....	Dwelling....		3,000		500	Children and matches.
" 29	4:15 p.m.	Ther.	Lyman St.....	False.....								False alarm.
" 31	9:55 a.m.	4	Power Ave.....	Automobile	Craig Bros.....			200.00	None			Gasoline.
" 31	1:30 p.m.	Tel.	Indian Orchard..	R.R. Cross.								Sparks from locomotive.
" 31	8:00 p.m.	Tel.	Liberty St.....	Dump.....								Dumping grounds.
Sept. 2	4:26 a.m.	Tel.	68 Willard Ave..	Lime.....								Lime slaking.
" 2	4:45 a.m.	61	15 Blake Hill....	Frame....	R. N. Cushman.	R. N. Cushman W. C. Merrill. J. W. Harris..	Dwelling....	1,621.00	5,400	1,025.39 203.00 52.30	2,000 2,500 1,000	Defective fireplace.
" 3	10:43 p.m.	still	Walnut St.....	Trolly car.								Trolly car.

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Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings. Loss on	Buildings. Ins. on	Contents. Loss on	Contents. Ins. on	Cause and Circumstances of Fire.
Sept. 4	11:55 a.m.	Tel.	379 Birnie Ave...	Frame....	Strob.&Landauer	T. Strobelberger	Dwelling....	$91.66	$5,000	$60.00	$800	Children and matches.
" 4	6:18 p.m.	Tel.	160 Ferry St.....	Bk. &frame		B. Baskin.....	Dwelling....	None		5.00	None	Unknown.
" 4	7:47 p.m.	74	False.....									False alarm.
" 5	9:20 a.m.	Tel.	43 Firglade Ave..	N'dl'ss al'm								Back smoke.
" 8	2:20 p.m.	still	North End Bridge	Bridge....								Unknown.
" 9	11:39 a.m.	Tel.	119 Liberty St...	Brick.....	Hale.....	Napier Saw W'ks	Factory.....					Heat from furnace.
" 10	10:39 a.m.	Tel.	Liberty St.....	Sawd'st pile								Fired by boys.
" 10	7:29 p.m.	Tel.	536 W'rt'gt'n St..	Awning....	C. Dramin.....	J. George.....		None		35.00	500	Gas lamp near awning.
" 11	7:18 a.m.	Tel.	390 Sherman Rd.	Frame....	S.Panagolopoulos	S.Panagolopoulos	Dwelling....	None		5.00	None	Careless with matches.
" 11	8:20 p.m.	Ther.	47 Hillman St....	Brick.....			Power Plant					Heat from gas lamp.
" 12	1:35 p.m.	still	Toll Bridge.....	Bridge....								Careless smoking.
" 12	2:10 p.m.	Tel.	Franklin St.....	Dump.....								Dumping grounds.
" 14	3:30 p.m.	79	False.....									False alarm.
" 14	8:32 p.m.	76	131 Carew St....	Frame....	Annie Cohen....	Annie Cohen....	Dwelling....	67.00	3,000	255.43	800	Careless with matches.
" 15	5:54 a.m.	41	32 Cypress St....	Frame....	Martha J. Eddy.	Mrs. M. A. Shorey	Dwelling....	None		6.70	500	Smoking in bed.
" 15	6:26 p.m.	75	1104 North St...	Frame....	L.M.&W.Radner	Mrs.M.McL'gh'n	Dwelling....	90.00	4,500	Slight		Unknown.
" 16	2:50 p.m.	Tel.	Albany St.....	Dump.....	Standard Oil Co.							Dumping grounds.
" 17	5:27 a.m.	41	109 Ferry St....	Frame....	H. Lasker.....		Dwell. & store	50.00	1,500	None		Defective chimney.
" 17	9:20 a.m.	still	Indian Orchard..	Trolly car.								Trolly car.
" 19	9:22 a.m.	Tel.	25 Harrison Ave..	Awning....	Carr Estate.....	Cowles Ins. Ag'y		24.80	60,000	None		Careless with matches.
" 20	3:15 p.m.	Tel.	358 Bridge St....	Brick.....	M. D. Goetting..	None.....						Unknown.
" 21	7:59 p.m.	462	R. 148 Washburn	Sleigh.....								Children.
" 21	11:58 p.m.	Tel.	R. 152-154 State	Automobile	Lee & Guertin...			65.00	None			Careless with gasoline.
" 22	9:40 a.m.	still	60-62 Margaret St	Ash bbls...								Hot ashes.
" 22	10:28 a.m.	Tel.	431 Main St.....	Brick.....								Rubbish in chute.
" 22	11:46 a.m.	Tel.	411-413 Main St.	Brick.....								Black smoke.
" 22	2:56 p.m.	93	Off Cortland St..	Frame....	D. A. Reed.....	C. F. Stone.....	Dwelling....	100.00	900	7.00	None	Unknown.
" 23	12:40 a.m.	still	State St.....	Trolly car.								Trolly car.
" 24	3:24 p.m.	91	76 Cambridge St.	Frame....	E. W. Giblin....	E. W. Giblin....	Dwelling....	1,215.00	2,000	650.00	1,000	Unknown.
" 24	3:26 p.m.	512	76 Cambridge St.	N'dl'ss al'm								Needless alarm.
" 24	4:15 p.m.	91	False.....									False alarm.
" 26	2:28 p.m.	798	Warwick St.....	Brick.....	Taber-Pr. Art Co.	Taber-Pr. Art Co.	Factory.....					Foul ventilator.
" 26	5:50 p.m.	still	Parkside Ave....	Frame....		None.....	Dwelling....					Children and matches.
" 27	6:28 a.m.	Tel.	Phoenix St. Exten	Frame....	R. Stebbins Est.	L. W. Kendall...	Dwelling....	50.00	None	50.00	None	Defective smoke pipe.
" 27	8:20 p.m.	42	49 Franklin St...	Brick.....	M. Riner.....	Mrs. C. Haniffin	Dwelling....	275.00	6,000	146.25	1,000	Unknown.
" 30	6:27 a.m.	81	10 Pine St.....	Brick.....	C. Haley.....	P. Bailey.....	Dwelling....	145.00	2,500	70.00	500	Children and matches.
" 30	8:11 a.m.	Tel.	120 Mill St.....	Chimney..								Chimney fire.
" 30	9:17 a.m.	Tel.	431 Main St.....	N'dl'ss al'm								Black smoke.
" 30	9:29 a.m.	Tel.	MassachusettsAv.	Frame....	W. D. McKenzie	None.....	Dwelling....					Plumber's torch.
" 30	11:54 a.m.	Tel.	220 Summer St...	Chimney..								Chimney fire.
Oct. 2	4:10 a.m.	36 I O	Indian Orchard..	Frame....	James McGeown	E. J. Morrissette	Dwell. & store					Gas heater.
" 2	6:45 p.m.	Tel.	Orange St.....	Dump.....								Dumping grounds.
" 3	4:55 a.m.	Tel.	Indian Orchard..	Stone.....	B. & A. R. R. Co..	B. & A. R. R. Co.	R. R. Depot.	3,640.00	2,500	138.13	100	Overheated boiler.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Oct. 3	5:50 a.m.	Tel.	Locust St.	Trolly car.								Trolly car.
" 4	12:26 a.m.	still	Mill River Lane	Brick	City of Sp'gfield	Fire Dept.	Storehouse	$25.00	None	None		Unknown.
" 4	3:05 a.m.	23	36 Sanford St.	Brick	M.-R'dio Auto Co	M.-R'dio Auto Co	Garage					Automobile.
" 5	8:29 a.m.	52	42 Dartmouth St.	Frame	J. P. Robison	A. Robison, M. D.	Dwelling	599.00	$3,000	$1,000.00	$2,500	Overheated flue.
" 5	1:28 p.m.	Tel.	29 Thompson St.	Kettle of tar								Kettle of tar.
" 6	11:07 a.m.	41	C. Liberty & Main	Frame	Nugent Carmody	Nugent Carmody	Shed	50.00	50	None		Unknown.
" 7	12:30 p.m.	Tel.	Foster St.	Dump								Dumping grounds.
" 7	6:20 p.m.	still	State & Walnut	Trolly car.								Trolly car.
" 7	7:48 p.m.	452	False									False alarm.
" 7	9:21 p.m.	43	32 Bond St.	Frame	Annie Finkelhof	Annie Finkelhof	Dwelling	1,069.00	3,500	10.00	None	Rubbish in attic.
" 7	11:14 p.m.	49	376 Birney Ave.	Brick	S'gfield R'lty Co.	Atlas Chain Co.	Factory	None				Spontaneous combustion
" 8	2:16 a.m.	2	229 Main St.	Brick	Donahue Bros.	W. A. Bristol	Stores&offices	75.00	45,000	104.50	2,000	Hot grease.
" 8	7:50 a.m.	41	98 Sharon St.	Frame	Annie Finkelhof	None	Shed	90.55	500	None		Unknown.
			41 Congress St.	Frame	J. Daneshevsky	J. Daneshevsky	Dwelling	55.00	4,800			Exposure loss.
" 8	1:04 p.m.	Tel.	Off Parkside Ave.	Brush	Massasoit R'ty Co							Brush fire.
" 8	7:59 p.m.	Tel.	Hamburg St.	Dump								Dumping grounds.
" 9	4:17 a.m.	Tel.	49 Ventura St.	Frame		None	Dwelling					Rubbish in cellar.
" 9	4:57 p.m.	still	Ferry St.	Rubbish								Rubbish.
" 9	7:18 p.m.	Tel.	178 W'rth't'n St.	Brick				Slight		None		Overheated steampipe.
" 11	2:55 a.m.	Tel.	Pearl St.	El. lgt. pole								Electric current.
" 11	5:27 p.m.	451	115 Ferry St.	Brick	L. Lasker	E. Goldberg	Store	206.00	1,500	114.00	500	Unknown.
			99 Ferry St.		J. Doherty, Trus.			None		20.00	2,000	Exposure loss.
" 14	11:40 a.m.	Tel.	Franklin St.	Dump								Dumping grounds.
" 14	1:05 p.m.	still	Union St.	Leaves								Leaves.
" 14	6:26 p.m.	46	46 Seventh St.	Brick	C. O'Connor	F. F. Cook	Apartment	100.00	5,000	14.00	1,800	Match on floor.
" 14	7:16 p.m.	Tel.	241 W'rth't'n St.	N'd'ss al'm								Needless alarm.
" 15	2:05 a.m.	still	R. 424-442 Main.	Awning	Smith & Murray			Slight				Awning.
" 15	1:27 p.m.	Tel.	Eleanor Road	Brush	M. Pease							Brush fire.
" 15	4:00 p.m.	still	R'r 188 High St.	Leaves								Leaves.
" 15	4:35 p.m.	still	Carew St.	Brush								Brush fire.
" 15	5:47 p.m.	Tel.	51 Adams St.	Leaves								Leaves.
" 15	9:25 p.m.	37 I O	Indian Orchard	Automobile	R. Wight							Automobile.
" 15	9:54 p.m.	981	False									False alarm.
" 16	11:15 a.m.	Tel.	Clifford St.	Brush								Brush.
" 16	12:05 p.m.	Ther.	983 Main St.	Brick	Bemis & Call	Bemis & Call	Factory					Defective thermostat.
" 16	2:08 p.m.	Tel.	Bloomfield St.	Grass								Grass.
" 16	3:52 p.m.	Tel.	High St.	Leaves								Leaves.
" 16	7:27 p.m.	Tel.	Dartmouth Ter.	Leaves								Leaves.
" 16	7:47 p.m.	Tel.	Ingersoll Grove	Leaves								Leaves.
" 17	11:40 a.m.	Tel.	970 Carew St.	Frame	A. & E. Balboni	A. & E. Balboni	Dwelling	80.00	2,500	None		Overheated stovepipe.
" 17	12:30 p.m.	Tel.	Pecousic Ave.	Dump								Dumping grounds.
" 17	12:57 p.m.	Tel.	Parkside Ave.	Brush								Brush fire.
" 17	3:57 p.m.	Tel.	Off White St.	Brush								Brush fire.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings. Loss on	Buildings. Ins. on	Contents. Loss on	Contents. Ins. on	Cause and Circumstances of Fire.
Oct. 17	5:25 p.m.	Tel.	Westminster St..	Leaves....								Leaves.
" 17	5:47 p.m.	Tel.	Chapin Terrace..	Brush.....								Brush fire.
" 18	1:00 p.m.	Tel.	Franklin St.....	Dump.....								Dumping grounds.
" 18	4:25 p.m.	still	Armory St.....	Brush.....								Brush fire.
" 18	4:57 p.m.	81	90 Oak St.....	Frame.....	A. P. Lawrence..	A. W. Atkins....	Dwelling....	$20.00	$5,000	None		Papers on gas stove.
" 18	7:10 p.m.	25	40 Harrison Ave..	Brick.....	J. Lester.....	Ruth Wheeler...	Block.....	95.91	27,000	$61.84	$3,000	Gas tube and iron.
" 18	7:25 p.m.	561	Bowdoin St.....	Dump.....								Leaves.
" 19	12:32 p.m.	74	582 Chestnut St..									Back draft.
" 19	2:45 p.m.	42	60 Sharon St.....	Brick.....	A. Freedman....	B. Engelson.....	Store.....	500.00	None	550.00	800	Unknown.
						Cath. Toomey.				9.00	200	
						M. Klein.....						
						J. F. Fisher...						
" 19			56-58 Sharon St..	Frame....	A. Freedman....	E. Bailey.....	Dwell. & store	1,500.00	5,000	50.00	None	Exposure loss.
						Tim. Mack...						
						S. Kozac.....						
						W. H. Lee....						
" 19			62-64 Sharon St..	Frame....	S. Kobosky.....		Dwelling....	150.00	3,000	None		Exposure loss.
" 20	4:40 p.m.	Tel.	Indian Orchard..	Brush.....								Brush fire.
" 20	5:12 p.m.	Tel.	75 Avon Place...	Brick.....	Aaron Terry....	T. M. Halloran..	Dwelling....	50.00	30,000	10.00	3,000	Defective gas fixture.
" 20	5:59 p.m.	Tel.	Ingraham Ave...	Leaves....								Leaves.
" 20	7:52 p.m.	Tel.	False.....									False alarm.
" 20	8:47 p.m.	Tel.	Parker St., I. O..	Grass.....								Grass.
" 21	7:25 a.m.	Tel.	South End.....	Dump.....								Dumping grounds.
" 21	1:15 p.m.	Tel.	Franklin St.....	Dump.....								Dumping grounds.
" 21	2:50 p.m.	Tel.	Indian Orchard..	Brush.....								Brush fire.
" 21	5:23 p.m.	still	Armory St.....	Grass.....								Grass fire.
" 24	9:49 p.m.	462	False.....									False alarm.
" 25	12:57 p.m.	76	131 Carew St....	Frame....	Annie Cohen....	Annie Cohen....	Dwelling....	95.00	3,000	15.00	800	Unknown.
" 25	1:48 p.m.	751	131 Carew St....	Frame....	Annie Cohen....	Annie Cohen....	Dwelling....	Slight		Slight		Unknown.
" 27	10:51 a.m.	742	Needless alarm...									Needless alarm.
" 27	4:30 p.m.	still	Indian Orchard..	Brush.....								Brush fire.
" 27	5:21 p.m.	Tel.	Prospect St.....	Brush.....								Brush fire.
" 27	7:47 p.m.	452	72 Congress St...	Brick.....	G.E.Winniman..	R. Morse.....	Dwelling....	312.00	15,000	101.53	500	Unknown.
						A.W.Lincoln..				1,166.00	4,000	
						P. B. Rich'dson				135.10	3,000	
" 28	11:27 a.m.	24	417 Main St.....	Brick.....	Julius Cohen....	R. F. Smith...	Block.....	1,125.00	28,000	40.00	3,000	Unknown.
						Robert Spare..				34.33	1,500	
" 28	5:50 p.m.	794	False.....									False alarm.
" 28	6:17 p.m.	57	81 Bowles St...	Frame....	H. McMaster...	H. McMaster...	Barn.....	55.00	2,100	500.00	500	Unknown.
			75-77 Bowles St	Frame....	E. Alvord.....	E. Alvord.....	Dwelling....	75.00	2,400	None		Exposure loss.
" 29	1:15 p.m.	Tel.	Round Hill.....	Leaves....								Leaves.
" 29	2:15 p.m.	Tel.	Carew St.....	Grass.....								Grass fire.
" 29	2:50 p.m.	still	166 Chestnut St..	Frame....	McIntosh...		Dwelling....					Careless smoking.
" 29	3:22 p.m.	Tel.	Phoenix St.....	Brush.....								Brush fire.

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DETAILED STATEMENT OF FIRES—Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings. Loss on	Buildings. Ins. on	Contents. Loss on	Contents. Ins. on	Cause and Circumstances of Fire.
Oct. 29	3:53 p.m.	Tel.	St. Jas. & Victoria	Leaves								Leaves.
" 29	4:55 p.m.	Tel.	30 Berkeley St.	Automobile	J. C. Kemater			None		None		Gasoline.
" 29	10:35 p.m.	Tel.	White St.	Bru. & grass								Brush and grass.
" 30	5:40 p.m.	Tel.	High St.	Leaves								Leaves.
" 30	7:48 p.m.	Tel.	Albany St.	Dump								Dumping grounds.
" 30	9:02 p.m.	453	False									False alarm.
" 31	1:14 p.m.	Tel.	Spencer Ave.	Grass								Grass fire.
" 31	1:31 p.m.	Tel.	56 Clantoy St.	Brush								Brush fire.
" 31	1:50 p.m.	Tel.	White St.	Brush								Brush fire.
" 31	1:55 p.m.	Tel.	Chest. & Br'kline	Leaves								Leaves.
" 31	7:10 p.m.	Tel.	Round Hill	Leaves								Leaves.
" 31	7:14 p.m.	Tel.	James St.	Leaves								Leaves.
" 31	7:24 p.m.	Tel.	Franklin St.	Dump								Dumping grounds.
" 31	7:32 p.m.	Tel.		Leaves								Malicious mischief.
" 31	7:45 p.m.	73	False									Malicious mischief.
" 31	7:48 p.m.	561	False									Malicious mischief.
" 31	7:50 p.m.	254	False									Malicious mischief.
" 31	8:00 p.m.	521	False									Malicious mischief.
" 31	8:06 p.m.	475	False									Malicious mischief.
" 31	8:23 p.m.	Tel.	West St.	Dump								Dumping grounds.
" 31	8:28 p.m.	624		Leaves								Malicious mischief.
" 31	9:04 p.m.	Tel.	Quincy St.	Leaves								Malicious mischief.
" 31	9:21 p.m.	53		Leaves								Malicious mischief.
" 31	9:47 p.m.	Tel.	Eastern & Chapel	Leaves								Malicious mischief.
Nov. 1	7:57 a.m.	Tel.	Main & Harrison	Trolly car								Trolly car.
" 2	1:40 p.m.	still	270 Plainfield St.	Frame	Provano, 2d.	Landers	Dwelling	None		None		Fumigating.
" 2	2:30 p.m.	Tel.	Campgrounds	Grass								Grass fire.
" 2	5:52 p.m.	Tel.	Cor. Ladd & Logan	Chimney								Chimney fire.
" 2	8:32 p.m.	751	130 Bond St.	Frame	L. Kliner	J. Bean	Dwelling	$90.00	$8,000	$50.00	None	Unknown.
" 2	9:35 p.m.	251	428 W'rth't'n St.	Frame	W. T. Sadler	J. Hettinger	Store	25.00	10,000	Slight		Overheated stove.
" 3	12:55 p.m.	Tel.	Indian Orchard	Brush								Brush fire.
" 3	3:35 p.m.	452		Rubbish								Rubbish.
" 3	7:40 p.m.	Tel.	Indian Orchard	Brush								Brush fire.
" 3	11:28 p.m.	Ther.	983 Main St.	Brick	Bemis & Call	Bemis & Call	Factory					Defective thermostat.
" 4	2:30 a.m.	Ther.	41 Mill St.	Brick	D. Ch. & Mfg. Co	D. Ch. & Mfg. Co	Factory					Defective thremostat.
" 4	2:58 a.m.	Tel.	Main St.	Brick	Geo. A. Whitney		Block					Needless alarm.
" 4	3:58 p.m.	still	State St.	Automobile	J. Critchley	J. Critchley						Automobile.
" 4	4:55 p.m.	still	Armory St.	Frame	City of S'gfield	None	Outbuilding					Unknown.
" 4	6:54 p.m.	Tel.	Lester St.	Grass								Grass fire.
" 4	7:18 p.m.	Tel.	142 Lowell St.	Frame	C. C. Abbey		Dwelling	35.00	4,000	None		Unknown.
" 5	12:50 p.m.	Tel.	North End Bridge	Bridge								Unknown.
" 5	1:05 p.m.	Tel.	Clantoy St.	Brush								Brush fire.
" 5	9:28 p.m.	47	False									False alarm.

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DETAILED STATEMENT OF FIRES — Continued.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Nov. 6	1:08 p.m.	Tel.	Plainfield St.	Grass								Grass fire.
" 6	4:07 p.m.	Tel.	Wilbraham Road.	Brush								Brush fire.
" 6	5:00 p.m.	Tel.	419 Main St.	Stone	Julius Cohen	Hawley & Locke	Store	None		$10.00	$150	Careless with matches.
" 6	6:25 p.m.	Tel.	160 Wilbr'm Ave.	Brick	Van N. M. T. Co.	Van N. M. T. Co.	Factory	$50.00	$20,000	350.00	68,500	Unknown.
" 8	5:14 a.m.	21	92-94 State St.	Brick	D. O. Gilmore	A. G. Guyer	Hotel	185.00	81,000	None		Careless with fire.
" 8	10:58 a.m.	78	137 Franklin St.	Frame	A. D. Rubinwitz	Paul Meenes	Dwelling	6.00	3,500	119.50	1,000	Unknown.
" 8	1:59 p.m.	291	State St.	Brick	Spfg.GasLightCo	Spfg.GasLightCo	Factory					Explosion.
" 9	1:06 p.m.	still	Parkside Ave.	Brush								Brush fire.
" 11	9:54 a.m.	Tel.	Ft. of MechanicSt.	Iron	Dick'son Mfg. Co	Dick'son Mfg. Co	Shed	69.60	40,000			Hot lacquer.
" 11	1:50 p.m.	Tel.	Parkside Ave.	Brush								Brush fire.
" 11	7:29 p.m.	still	State St.	Trolly car.								Trolly car.
" 11	8:54 p.m.	475	False									False alarm.
" 12	4:45 a.m.	Ther.	41 Mill St.		D. Ch. & Mfg. Co	D. Ch. & Mfg. Co						Defective thermostat.
" 12	3:09 p.m.	462	55 Washburn St.	Frame	J. Hurley	J. Hurley	Barn	294.00	675	None		Children and matches.
			51 Washburn St.	Frame	J. Crowley	J. Crowley	Barn	60.00	800	31.25	1,300	Exposure loss.
" 12	4:20 p.m.	Tel.	Wilbraham Road.	Brush								Brush fire.
" 12	10:45 p.m.	Tel.	State St.	Trolly car.								Trolly car.
" 13	6:37 a.m.	74	111-113 Massas't.	Frame	Griffin Bros.	Griffin Bros.	Garage	30.00	500	575.00	800	Careless with gasoline.
" 13	6:44 p.m.	513	120 Buckingham.	Automobile	C. E. Street					46.01	400	Gasoline.
" 14	6:23 p.m.	35	526 Main St.	Chimney								Chimney fire.
" 14	8:21 p.m.	36	103 Wilcox St.	Frame	A. Profiglio	A. Misisco	Dwelling	75.00	4,000	None		Defective chimney.
" 14	11:44 p.m.	28	33 Vernon St.									Smoking in bed.
" 16	1:09 p.m.	36	53 Union St.	Frame	Timothy H. Shea	Timothy H. Shea	Factory					Loose pulley.
" 17	5:42 p.m.	962	False									False alarm.
" 18	9:02 a.m.	Tel.	267Wilbraham Rd	Frame	W. J. Walker.	W. J. Walker.	Dwelling	42.00	3,500	None		Overheated range.
" 18	3:35 p.m.	still	8 Myrtle St., I. O.	Brick	Ind. Orchard Co.	Andro Grochaiae	Dwelling	29.28	8,000	None		Children and matches.
" 18	7:30 p.m.	612	41 Long Hill St.	N'dl'ss al'm								Needless alarm.
" 18	9:54 p.m.	84	417 Walnut St.	Brick	H. Granstein	A. Sisitzky	Store	87.50	2,500	90.27	1,000	Unknown.
" 19	2:25 p.m.	84	478 Mill St.	Frame	A. J. Flanagan	A. J. Flanagan	Shed	50.00	50	None		Hot ashes.
			Mill St.	Frame	A. J. Flanagan		Dwelling	30.00	5,950	None		Exposure loss.
" 19	3:34 p.m.	still	850 State St.	Frame	H'pd'n Lum. Co.	H'pd'n Lum. Co.	Factory					Unknown.
" 19	4:43 p.m.	452	False									False alarm.
" 19	4:58 p.m.	still	Armory St.	Automobile	J. Carmody					Slight		Gasoline.
" 19	5.44 p.m.	still	R'r 435 Dwight St	Rubbish								Rubbish.
" 20	8:59 a.m.	still	788 State St.	Brick			Block					Back draft.
" 20	1:45 p.m.	still	Armory St.	Brush								Brush fire.
" 20	2:46 p.m.	Tel.	63 Foster St.	Frame	John Carroll	W. H. Bolewine	Dwelling					Hot ashes.
" 20	6:32 p.m.	Tel.	Round Hill.	Leaves								Leaves.
" 21	5:35 p.m.	742	Sherman Road.	Brush								Brush fire.
" 21	7:35 p.m.	Tel.	265 State St.	Chimney								Chimney fire.
" 22	3:55 p.m.	Tel.	49 Franklin St.	Brick	M. Riner	J. Markey	Dwelling	39.00	7,000	None		Careless with gasoline.
" 23	11:01 a.m.	Tel.	C. Armory & Lib.	Dump								Dumping grounds.
" 24	2:16 p.m.	Tel.	Crestwood St.	Grass								Grass fire.
" 24	8:10 p.m.	36	241 Water St.	Lime								Barrel of lime.

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DETAILED STATEMENT OF FIRES — Concluded.

Date.	Time.	Box.	Location.	Description of Building.	Owner.	Occupant.	How Occupied.	Buildings.		Contents.		Cause and Circumstances of Fire.
								Loss on	Ins. on	Loss on	Ins. on	
Nov. 25	12:35 a.m.	36 I O	R. 13 Water St., I.O	Frame....	Ind. Orchard Co.	Syerl Willett....	Shed.....	$100.00	$250	None		Unknown.
" 25	2:37 a.m.	Tel.	Ft. of Margaret St.	Brick.....	U. El. Light Co.	U. El. Light Co.	Power house.					Hot ashes.
" 26	9:33 a.m.	21	525 Main St.....	Brick.....	P. L. Morse.....	I. O. Red Men J. Aronson..... A. Fillion..... A. O. U. W'kmn	Block.....	678.00	20,000	$938.30 150.00 50.00 50.00	$2,500 3,000 2,000 250	Unknown.
" 27	9:18 a.m.	28	62 Vernon St....	Brick.....	Joseph Tuleja...		Block.....	50.00	18,000	None		Hot ashes.
" 28	1:56 p.m.	A D T	Wason Ave.....	Brick.....	Baush M. T. Co.	Baush M. T. Co.	Factory.....	None		None		Heat from oven.
" 29	12:05 p.m.	Tel.	Indian Orchard..	Dump.....								Dumping grounds.
" 29	4:18 p.m.	69	82 Claremont St.	N'dl'ss al'm								Needless alarm.
" 29	5:00 p.m.	Tel.	122 Armory St...	Chimney..								Chimney fire.
" 29	6:35 p.m.	Tel.	Toll Bridge.....									Careless smoking.
" 29	10:11 p.m.	45	23 Fulton St.....	Frame....	Mary A. Barrett.	J. Warner.... A. Nola.....	Dwelling.....	205.00	2,500	138.00 40.00	1,000 600	Unknown.
" 30	6:55 a.m.	Tel.	Indian Orchard..	Dump.....								Dumping grounds.
" 30	10:54 a.m.	Tel.	Cherry Lane.....	Dump....	Timothy Shea...							Dumping grounds.
" 30	12:49 p.m.	Tel.	Laurel Ave.....	Grass.....								Grass fire.
" 30	2:45 p.m.	still	Clantoy St.....	Brush.....								Brush fire.
" 30	3:29 p.m.	Tel.	Spencer St.....	Grass.....								Grass fire.
" 30	4:23 p.m.	Tel.	Indian Orchard..	Chimney..								Chimney fire.

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ALARMS ANSWERED.

Engine Co. No. 1	179
Engine Co. No. 2	235
Engine Co. No. 3	51
Engine Co. No. 4	106
Engine Co. No. 5	63
Engine Co. No. 6	90
Engine Co. No. 8	82
Engine Co. No. 9	98
Hose Co. No. 7	227
Hose Co. No. 10	140
Hose Co. No. 11	46
Hose Co. No. 12	105
Hose Co. No. 13	63
Truck Co. No. 1	139
Truck Co. No. 3	44
Truck Co. No. 6	78
Truck Co. No. 8	99
Truck Co. No. 10	166
Squad A	361
Squad B	386

CAUSES OF FIRES AND ALARMS.

Accident to thermostat	1
Accident with candle	1
Accident with lamp	5
Automobile	9
Back draft	20
Bonfire	5
Boys roasting corn	1
Broken gas pipe	1

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Brush, forest, grass, leaves	135
Burning fat	1
Burning wire	1
Candle and curtain	2
Carelessness	1
Careless smoking	30
Careless with candle	1
Careless with fire	1
Careless with gasoline	12
Careless with kerosene	1
Careless with matches	18
Careless with oil	1
Careless workman	4
Charcoal heater	2
Christmas tree	1
Child and lamp	1
Children playing with fire	8
Children and matches	21
Chimney fires	53
Clothing in gas jet	1
Curtain and gas fixture	3
Damp wires	1
Defective chimney	6
Defective fireplace	2
Defective gas fixture	1
Defective setting of range	1
Defective smokepipe	2
Defective thermostat	9
Defective wiring	1
Drunkenness	1
Drying plaster	4
Dumping grounds	49
Dynamo	2
Electric flatiron	1
Electric spark	1
Electric wires	1
Escaping gas	2
Escaping steam	3
False alarms	53
Fireworks	8

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Foul ventilator	1
Freight car	1
Friction	1
Fumigating	1
Gas flatiron	1
Gas lamp and awning	1
Gas range	8
Gasoline	12
Grease flue	2
Grease in oven	1
Heat from furnace	1
Heat from gas lamp	1
Heat from oven	1
Heat from stove	1
Hot ashes	13
Hot lacquer	1
Incendiary	13
Kettle of tar	2
Lamp and curtain	1
Leaky gas pipe	1
Lightning	1
Lime	3
Loose pulley	1
Lumber in rear of boiler	1
Malicious mischief	12
Meat in oven	1
Meat on stove	3
Needless alarms	16
Oil heater	9
Oil lamp	2
Out of city	2
Overheated boiler	1
Overheated chimney	1
Overheated flue	4
Overheated furnace	4
Overheated stove	3
Overheated stovepipe	5
Pan of grease	8
Papers on gas stove	1
Plumber's torch	1

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Prest-o-lite tank	1
Rags under sink	1
Rekindling of former fire	3
Rubbish	21
Rubbish chute	3
Rubbish in attic	1
Rubbish in cellar	2
Sawdust	3
Short circuit	3
Smoking in bed	2
Sparks from chimney	6
Sparks from fan	1
Sparks from forge	1
Sparks from fireplace	1
Spark from lamp	1
Sparks from locomotive	8
Spontaneous combustion	4
Stove in car	1
Tar kiln	1
Thawing water pipe	3
Trolly car	20
Unknown	115
Total	829

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COMPARATIVE STATEMENT

OF LOSSES BY FIRE AND ALARMS OF FIRE SINCE 1870.

From	Dec.	1,	1870,	to	Dec.	1,	1871	$199,317.00	21
"	"	"	1871,	"	"	"	1872	106,425.00	22
"	"	"	1872,	"	"	"	1873	191,107.00	48
"	"	"	1873,	"	"	"	1874	285,822.02	38
"	"	"	1874,	"	"	"	1875	476,961.45	57
"	"	"	1875,	"	"	"	1876	120,824.00	53
"	"	"	1876,	"	"	"	1877	74,071.00	32
"	"	"	1877,	"	"	"	1878	49,552.00	39
"	"	"	1878,	"	"	"	1879	36,706.70	33
"	"	"	1879,	"	"	"	1880	8,661.35	27
"	"	"	1880,	"	"	"	1881	92,352.82	61
"	"	"	1881,	"	"	"	1882	60,232.06	73
"	"	"	1882,	"	"	"	1883	34,969.11	46
"	"	"	1883,	"	"	"	1884	30,755.34	54
"	"	"	1884,	"	"	"	1885	39,241.91	48
"	"	"	1885,	"	"	"	1886	33,584.00	61
"	"	"	1886,	"	"	"	1887	64,930.29	86
"	"	"	1887,	"	"	"	1888	177,577.19	79
"	"	"	1888,	"	"	"	1889	52,085.19	79
"	"	"	1889,	"	"	"	1890	33,864.99	92
"	"	"	1890,	"	"	"	1891	201,126.00	141
"	"	"	1891,	"	"	"	1892	125,243.36	140
"	"	"	1892,	"	"	"	1893	397,531.03	147
"	"	"	1893,	"	"	"	1894	57,732.41	125
"	"	"	1894,	"	"	"	1895	43,311.74	128
"	"	"	1895,	"	"	"	1896	57,206.60	141
"	"	"	1896,	"	"	"	1897	55,460.89	157
"	"	"	1897,	"	"	"	1898	235,981.79	171
"	"	"	1898,	"	"	"	1899	94,694.02	213
"	"	"	1899,	"	"	"	1900	62,157.70	222
"	"	"	1900,	"	"	"	1901	96,409.25	236
"	"	"	1901,	"	"	"	1902	149,931.33	248
"	"	"	1902,	"	"	"	1903	30,316.69	311
"	"	"	1903,	"	"	"	1904	68,332.86	385
"	"	"	1904,	"	"	"	1905	208,451.58	424
"	"	"	1905,	"	"	"	1906	105,771.28	403
"	"	"	1906,	"	"	"	1907	535,549.74	498
"	"	"	1907,	"	"	"	1908	88,690.38	530
"	"	"	1908,	"	"	"	1909	75,701.81	675
"	"	"	1909,	"	"	"	1910	133,329.47	710
"	"	"	1910,	"	"	"	1911	397,714.08	729
"	"	"	1911,	"	"	"	1912	166,210.66	829

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FIRE ALARM TELEGRAPH.

Location of Signal Boxes.

Keys on all Boxes.

Box 2.—Main, opposite Taylor.
Box 3.—Main, opposite Lyman.
Box 4.—Taylor, opposite Power avenue.
Box 5.—Main and Worthington.
Box 6.—Main and Bridge.
Box 7.—Liberty and Chestnut.
Box 8.—Taylor and Dwight.
Box 9.—Lyman and Chestnut.
Box 12.—Union and School.
Box 13.—State and Spring.
Box 14.—Spring and Worthington.
Box 15.—Salem and Mattoon.
Box 16.—Worthington and Kibbe avenue.
Box 17.—State and Walnut.
Box 18.—State and Oak.
Box 19.—Union and Mulberry.
Box 123.*—Smith & Wesson.
Box 125.*—Fisk & Walker Mfg. Co.
Box 135.*—United States Armory
Box 142.—Pearl and Byers.
Box 152.—Chestnut, opposite Bridge.
Box 182.*—National Papeterie Co.
Box 21.—State and Main.
Box 23.—Sanford and Market.
Box 24.—Main and Pynchon.
Box 25.—Dwight and Harrison avenue.
Box 26.—Main, opposite Hillman.
Box 27.—Water and Fort.
Box 28.—Water and Vernon.
Box 29.—Water and Elm.
Box 212.*—Court Square Hotel.
Box 213.*—Tapley building.
Box 231.—Main and Elm.

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Box 241.*—Gilmore Opera House.
Box 251.—Chestnut and Worthington.
Box 253.—Bridge and Dwight.
Box 254.—Court and Dwight.
Box 271.—Water and Bridge.
Box 273.* } —Myrick building.
Box 275.* }
Box 274.*—Springfield Brewing Co.
Box 291.*—Springfield Gas Co.
Box 31.—State and Chestnut.
Box 32.—Maple and Central.
Box 34.—Main, opposite Central.
Box 35.—Main and Howard.
Box 36.—Water and Howard.
Box 37.—Water and Margaret.
Box 38.—Water and Lombard.
Box 39.—Broad and Hanover.
Box 312.*—City Library.
Box 314.*—St. Michael's Cathedral.
Box 321.—Maple and Mulberry.
Box 324.—Maple, opposite Park.
Box 341.—Main and Norwood.
Box 342.—Main and York.
Box 351.—Morris and Dale.
Box 352.—Main and Wilcox.
Box 362.*—Newell Bros. Mfg. Co.
Box 364.*—Electric Light Co.
Box 382.*—Street Railway Power House.
Box 41.—Main and Cypress.
Box 42.—Main and Emery.
Box 43.—Main and Sargeant.
Box 45.—Fulton and Emery.
Box 46.—Fulton and Seventh.
Box 47.—Main, opposite Osgood.
Box 48.—Hooker street engine house.
Box 49.—Main and Wason avenue.
Box 412.*—U. S. Envelope Co.
Box 413.*—Cooley's Hotel.
Box 421.—Main and Holyoke.
Box 423.*—Street Railway Office.

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Box 431.—Main, opposite Church.
Box 451.—North and Ferry.
Box 452.—North and Congress.
Box 453.—North and Tenth.
Box 461.—Fulton and Plymouth.
Box 462.—Plainfield, opposite Washburn.
Box 463.—Plainfield, near Clayton.
Box 465.—Old Plainfield street schoolhouse.
Box 471.—Main and Arch.
Box 472.—Birnie avenue and Huntington.
Box 473.—Birnie avenue and Medford.
Box 475.—Birnie avenue and Douglas.
Box 476.—Birnie avenue and Walter.
Box 481.*—Birnie Paper Co.
Box 482.*—Holyoke Card and Paper Co.
Box 483.*—Wason Mfg. Co.
Box 485.*—Stebbins Mfg. Co.
Box 491.—Main and Alfred.
Box 4912.*—Bosch Magneto Co.
Box 492.*—N. E. Russell's shop.
Box 493.—Fisk and Demond avenues.
Box 51.—Bay, near Sherman.
Box 52.—St. James avenue, opposite Thompson park.
Box 53.—St. James avenue and Florida.
Box 54.—Worthington and Armory.
Box 56.—Worthington and Thompson.
Box 57.—Winchester square.
Box 58.—Princeton and Amherst.
Box 59.—St. James avenue, near Dorchester.
Box 512.—Bay, opposite Marion.
Box 513.—Bay, near Westminster.
Box 521.—St. James avenue and Westminster street.
Box 561.—Worthington and Bowdoin.
Box 562.*—Standard Oil Co.
Box 571.*—Hendee Mfg. Co.
Box 572.*—Hampden Lumber Co.
Box 573.—State and Pleasant.
Box 574.—State, opposite Hancock.
Box 591.*—Millet Brass Co., East Springfield.
Box 592.*—Stevens-Duryea Auto Co., East Springfield.

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Box 61.—Mill and Locust.
Box 62.—Belmont avenue, opposite Keith.
Box 63.—Sumner avenue and Long Hill.
Box 64.—Sumner avenue and Randolph.
Box 65.—Garfield and Churchill.
Box 67.—Belmont and Sumner avenues.
Box 68.—White and Orange.
Box 69.—Allen and White.
Box 612.—South and Boulevard.
Box 613.—Fort Pleasant avenue and Park.
Box 614.—Fort Pleasant avenue and Riverview terrace.
Box 621.—Belmont avenue, near Garfield.
Box 623.—Belmont and Beaumont avenues.
Box 624.—Oakland and Orange.
Box 625.—Dickinson street and Euclid avenue.
Box 631.—Long Hill street and Cherryvale avenue.
Box 632.—Firglade avenue, near Pineywoods.
Box 641.—Sumner and Continental avenues.
Box 642.—Belmont avenue and Walden.
Box 643.—Belmont avenue and Lyndale.
Box 644.—White and Longfellow terrace.
Box 645.—Belmont avenue and White.
Box 651.—Park avenue and Mountainview.
Box 652.—Sumner avenue, near Greenleaf.
Box 671.—White and Sumner avenue.
Box 672.—White and Scott.
Box 673.—Alderman and Ventura.
Box 674.—Sumner avenue, opposite Lester.
Box 681.—Allen and Orange.
Box 682.—Allen, east of N. E. R. R. tracks.
Box 71.—Chestnut and Springfield.
Box 72.—Chestnut and Alexander.
Box 73.—North and Jefferson avenue.
Box 74.—Chestnut and Prospect.
Box 75.—North and Ringgold.
Box 76.—Chestnut and Carew.
Box 77.*—West Box Shop.
Box 78.—Chestnut, opposite Greenwood.
Box 79.—Liberty and Cass.
Box 712.—Springfield, north of Chestnut.

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Box 713.—Hamburg and Farnsworth.
Box 714.—Atwater Glen.
Box 721.—Main and Portland.
Box 732.*—City Hospital.
Box 741.—Carew and Armory.
Box 742.—Liberty and Sherman road.
Box 743.—Liberty and Woodmont.
Box 751.—North and Bond.
Box 752.*—Dexter's Bakery, Bond street.
Box 761.*—Mercy Hospital.
Box 762.*—Sacred Heart Church.
Box 771.—Liberty and Genesee.
Box 791.—Liberty, opposite Heywood avenue.
Box 792.*—Cheney Bigelow Wire Works.
Box 793.*—Taber Prang Art Co.
Box 794.—Liberty and Armory.
Box 795.—Liberty and Grover.
Box 796.—Springfield and Armory.
Box 81.—Walnut and Oak.
Box 82.—Walnut and Cedar.
Box 83.—Walnut and Hancock.
Box 84.—Lincoln Hall.
Box 85.—Central and Spruce.
Box 86.—Central and Pine.
Box 87.—Maple and Pine.
Box 89.—Maple and Mill.
Box 841.*—Water Shops, U. S. A.
Box 91.—Cambridge and Burr.
Box 92.—Wilbraham road and Homer.
Box 93.—State and Reed.
Box 94.—Wilbraham road and Rutland avenue.
Box 95.—Wilbraham avenue and Beverly.
Box 96.—Hancock and Quincy.
Box 97.—Pendleton and Eastern avenues.
Box 98.—Alden and Eastern avenue.
Box 921.—State, near International College.
Box 923.—Wilbraham road and Colonial avenue.
Box 931.*—City Almshouse.
Box 932.*—Highland Brewing Co.
Box 934.—State and Benton.

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Box 961.—Hancock and King.
Box 962.—Stebbins and Union.
Box 964.—Lebanon and Prince.
Box 971.—Eastern avenue and Union.
Box 981.—Alden and Hickory.

INDIAN ORCHARD.

Box 4.—Oak and Parker.
Box 5.—Worcester and Pine.
Box 6.—Main and Myrtle.
Box 27.—Main and Cedar.
Box 29.—Main and Parker.
Box 35.—Hampden and Chestnut.
Box 36.—Main and Oak.
Box 361*.—Fiberloid Co.
Box 37.—Berkshire and Myrtle.
Box 371*.—Chapman Valve Co.
Box 43.—Main and Lyons.
Box 76.—Oak, opposite Franklin.

Two blows—Fire out or under control.
Ten blows—General alarm.
Fifteen blows will be sounded five times for Militia call.

School Signals—Two blows five times, 8.15 a. m., no morning session.
Two blows five times, 11.45 a. m., no afternoon session.
Two blows five times, 7.30 a. m., no morning session high school.
Two blows five times, 12.15 p. m., no afternoon session high school.

All Private Boxes are marked with *.

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Box 713.—Hamburg and Farnsworth.
Box 714.—Atwater Glen.
Box 721.—Main and Portland.
Box 732.*—City Hospital.
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Box 97.—Pendleton and Eastern avenues.
Box 98.—Alden and Eastern avenue.
Box 921.—State, near International College.
Box 923.—Wilbraham road and Colonial avenue.
Box 931.*—City Almshouse.
Box 932.*—Highland Brewing Co.
Box 934.—State and Benton.

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Box 961.—Hancock and King.
Box 962.—Stebbins and Union.
Box 964.—Lebanon and Prince.
Box 971.—Eastern avenue and Union.
Box 981.—Alden and Hickory.

INDIAN ORCHARD.

Box 4.—Oak and Parker.
Box 5.—Worcester and Pine.
Box 6.—Main and Myrtle.
Box 27.—Main and Cedar.
Box 29.—Main and Parker.
Box 35.—Hampden and Chestnut.
Box 36.—Main and Oak.
Box 361*.—Fiberloid Co.
Box 37.—Berkshire and Myrtle.
Box 371*.—Chapman Valve Co.
Box 43.—Main and Lyons.
Box 76.—Oak, opposite Franklin.

Two blows—Fire out or under control.
Ten blows—General alarm.
Fifteen blows will be sounded five times for Militia call.

School Signals—Two blows five times, 8.15 a. m., no morning session.
Two blows five times, 11.45 a. m., no afternoon session.
Two blows five times, 7.30 a. m., no morning session high school.
Two blows five times, 12.15 p. m., no afternoon session high school.

All Private Boxes are marked with *.

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ANNUAL REPORT OF THE

Superintendent of the Fire Alarm Telegraph.

To the Honorable Board of Commissioners of the Fire Department.

GENTLEMEN: The new Central Office equipment has given the best results, not a skip of any kind having occurred since its installation. Three hundred and seventeen (317) signals have been received over the system during the year.

We have installed fourteen (14) new fire alarm boxes for the city and five (5) private boxes. All of the city's boxes are now equipped with keyless doors. At least twelve (12) new street boxes should be installed during 1913.

All of the city's wires within the territory designated the first of the year, have been placed underground. Four new circuits have been added to the service making a total of twenty-nine (29).

Respectfully,

S. L. WHEELER,

Superintendent.

December 16, 1912.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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POLICE DEPARTMENT.

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REPORT OF

THE POLICE COMMISSION.

To His Honor, the Mayor, and the City Council of the City of Springfield.

GENTLEMEN: In accordance with the ordinances governing the Police Department of the City of Springfield, we have the honor to submit the Annual Report for the year ending November 30, 1912.

At the commencement of the current year the Police Commission was composed of three members, namely, Fred O. Clapp, chairman, John W. Kennely, and Edward H. Cullen.

On January 2, William J. Quilty was appointed regularly in the service of the City of Springfield as Chief of Police, as per Chapter 468 of the Acts of 1911, which was accepted by the voters.

On January 2, we reappointed Raymond A. Bidwell Prosecuting Attorney, who has given valuable counsel and efficient service to the department.

In April, the Mayor reappointed Fred O. Clapp as a member of the Police Commission, whose term expired May 1. Here we wish to express to your Honorable Body the appreciation of the excellent service rendered by Mr. Clapp to the department, and we think the city is fortunate in continuing him in office. On May 6, John W. Kennely was elected chairman of the Board of Police Commissioners.

In our last annual report we requested the City Government to change the ordinance governing the police department and give the Police Commission authority to increase the department by the addition of fifteen patrolmen, which

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was granted, therefore making a total of one hundred and three (103) Night and Day watchmen.

The Detective Bureau has been increased by the promotion of James M. Daly and Frank W. Quilty from Acting Inspectors to Inspectors. This branch of the department has been under the supervision of Captain John H. Boyle, who cannot be given too much praise for the efficient work he and his assistants are doing.

During the past year four members of the department voluntarily resigned to go into some other business. These were Melvin H. Ransom, Everett B. Bogert, William McDougal, and James E. Martin, their places being filled by members of the reserve force.

A number of officers have been injured in the discharge of their duties, and in one case disabled for several months.

There have been placed on the retired list two members of the department, namely, Patrolmen David H. Newcomb and George L. DeForest, and several more should be retired for the betterment of the service.

The discipline of the members of the department during the past year has been excellent, three members having been brought before the Commission on various charges. In all the cases the charges were sustained and proper discipline was applied.

The padded cell, which the department had no use for, was sold.

The Bicycle Squad is still in service and doing good work, but should be increased.

The Vice Squad has been increased by the promotion of Edgar A. Littlefield from Sergeant to Inspector and Edward J. Rathbun from Patrolman to Inspector.

Also Frederick L. Thayer was promoted from Patrolman to Sergeant to fill the vacancy caused by the promotion of Edgar A. Littlefield.

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In our last report we requested your Honorable Body for an additional patrol car, also a touring car for the use of the Chief and the Detective Bureau, which were granted and which we appreciate, as it will be a great help to the department in detecting crime, therefore bringing the department up to date, and here we may say that our Police automobile equipment is second to no city in the state or country. The department is now equipped with two automobile patrols, also the old automobile patrol has been thoroughly overhauled and can be used in emergency cases. The Model G car is being equipped with a water-cooled engine and will be ready for use in a few days. We have bought of the Knox Automobile Company one automobile patrol which will be ready for use sometime this month, also have purchased of William M. Stevenson one touring car, it being now in use by the department.

The members of the department are still drilled under the command of Major David A. Turner as in the past, showing a marked improvement in their marching and movements.

RECOMMENDATIONS.

Few cities in Massachusetts have increased so rapidly in population during the past few years as Springfield, which is now a city of one hundred thousand inhabitants, consequently new conditions are continually finding places and therefore must be met by increased responsibilities. So we again ask your Honorable Body that authority be given the Police Commission to appoint ten additional Patrolmen next year.

It is also necessary that you should amend the ordinance so that the Commissioners may provide for present and future growth of the city, leaving no section without adequate police protection.

We take pride in our new Police building as being nearly perfect in conveniences, but must say that the Court Room is

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not what it should be in acoustics; the lessee of the Court Room (County Commissioners) having found fault with the acoustic conditions, also the Judge, Clerk, Prosecuting Attorney, and all other officials, we say that something must be done at once to improve conditions.

There should be three more signal boxes added in the suburban districts during the coming year.

Again we call your attention to the need of a Police Surgeon, as the growth of the department demands it.

To His Honor, the Mayor, and Members of the City Government we wish to acknowledge our personal obligations for the many courtesies received from their hands.

The report of the Chief of Police covering in detail the membership, appropriations and receipts, expenditures, arrests, convictions and penalties, and all other detail duties performed by the department as well as the amount of property in control of the department, is hereto attached and made a part of this report.

Respectfully submitted,

JOHN W. KENNELY, *Chairman,*
E. H. CULLEN,
FRED O. CLAPP,

Board of Police Commissioners.

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BOARD OF ALDERMEN, December 23, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 23, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 24, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 24, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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ANNUAL REPORT

OF

CHIEF OF POLICE.

SPRINGFIELD, MASS., December 1, 1912.

To the Board of Police Commissioners of the City of Springfield.

GENTLEMEN: I herewith submit the Annual Report of the Chief of Police for the year ending November 30, 1912, and in doing so I desire to call the attention of the Commission to the excellent work done by the Detective Bureau and the Vice Squad. The work of the Vice Squad is in a measure shown by the amount of fines imposed on parties prosecuted by this squad, the fines totaling $5,989. This is more than half of the fines paid in the Police Court representing the work of the entire department. This and the other work done by the Vice Squad fully justifies its establishment in my opinion.

The detail of the work of the department follows.

Respectfully submitted,

WILLIAM J. QUILTY,

Chief of Police.

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ROSTER OF THE DEPARTMENT.

BOARD OF POLICE COMMISSIONERS.

JOHN W. KENNELY, *Chairman,*
EDWARD H. CULLEN, FRED O. CLAPP,
CONSTANTIN PANTASIDES, *Clerk.*

OFFICERS OF THE DEPARTMENT.

No.	Name.		Date of Appointment.	Nativity.	Age.
1.	Wm. J. Quilty,	Chief,	March 7, 1887,	United States,	57
2.	Chas. M. Wright,	Dep. Chief,	March 3, 1869,	United States,	67
3.	John J. O'Malley,	Captain,	January 26, 1874,	Ireland,	61
4.	John H. Boyle,	Captain,	June 6, 1887,	United States,	50
5.	Henry M. Perkins,	Captain,	May 14, 1883,	United States,	60
6.	David J. Manning,	Lieutenant,	January 12, 1879,	United States,	61
7.	Chas. A. Wade,	Lieutenant,	April 8, 1889,	United States,	52
8.	John St. Ledger,	Inspector,	July 12, 1888,	Ireland,	53
9.	Martin P. Costello,	Inspector,	March 28, 1898,	United States,	42
10.	James T. Raiche,	Inspector,	October 17, 1901,	United States,	41
11.	James M. Daly,	Inspector,	November 23, 1896,	United States,	51
12.	Frank W. Quilty,	Inspector,	March 25, 1912,	United States,	24
13.	George H. Norris,	Vice Squad,	January 18, 1875,	United States,	62
14.	Edgar A. Littlefield,	Vice Squad,	June 30, 1896,	United States,	44
15.	Edward J. Rathbun,	Vice Squad,	January 14, 1908,	United States,	29
16.	John Hall,	Sergeant,	November 12, 1883,	Ireland,	55
17.	E. Frank Goodwin,	Sergeant,	October 25, 1886,	United States,	65
18.	Patrick J. McCallin,	Sergeant,	January 12, 1879,	Ireland,	64
19.	Patrick H. McDonald,	Sergeant,	June 30, 1896,	United States,	53
20.	James C. Burke,	Sergeant,	June 7, 1892,	United States,	45
21.	Michael J. O'Brien,	Sergeant,	February 15, 1897,	United States,	43
22.	Frederick L. Thayer,	Sergeant,	September 4, 1894,	United States,	49

NIGHT AND DAY WATCHMEN.

No.	Name.	Date of Appointment.	Nativity.	Age.
1.	Paul J. O'Brien,	May 23, 1884,	United States,	56
2.	Ernest Rosenberg,	May 4, 1885,	Germany,	67
3.	John H. Dunleavy,	May 18, 1885,	United States,	56
4.	Thomas Ranney,	June 17, 1885,	United States,	64
5.	James Murtagh,	October 25, 1886,	United States,	51
6.	Calvin W. Jennings,	February 4, 1890,	United States,	71
7.	Michael C. Quinlivan,	September 4, 1891,	Ireland,	50
8.	Michael R. Donovan	May 23, 1892,	Ireland,	74
9.	Chas. H. O'Connell,	May 23, 1892,	United States,	45
10.	Ward E. Maranville,	May 23, 1892,	United States,	53
11.	Edgar A. Kirk,	January 22, 1894,	United States,	68
12.	Albert H. Shaw,	March 11, 1895,	England,	54
13.	James J. Donovan,	June 30, 1896,	Ireland,	47
14.	Edward P. Tilton,	June 30, 1896,	United States,	50
15.	James H. Rogers,	February 1, 1897,	United States,	68

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No.	Name.	Date of Appointment.	Nativity.	Age.
16.	John A. Swift,	February 15, 1897,	Ireland,	46
17.	Michael F. Egan,	March 22, 1897,	Ireland,	52
18.	Patrick Keefe,	March 22, 1897,	Ireland,	49
19.	Andrew J. Melaney,	March 20, 1899,	United States,	40
20.	Albert E. Ward,	March 20, 1899,	United States,	39
21.	Simon J. Connery,	September 26, 1899,	United States,	50
22.	Ovila L. Huot,	July 13, 1900,	Canada,	44
23.	Michael Kennedy,	July 13, 1900,	Ireland,	40
24.	William J. Grady,	July 13, 1900,	United States,	52
25.	Daniel J. Twohig,	July 13, 1900,	United States,	39
26.	Timothy J. Hallahan,	October 17, 1901,	Ireland,	43
27.	Charles W. Geary,	October 17, 1901,	United States,	43
28.	John F. Bacon,	October 17, 1901,	United States,	39
29.	John L. Maloney,	October 28, 1901,	United States,	36
30.	Ernest P. Marble,	December 30, 1902,	United States,	34
31.	James F. Dagnan,	January 2, 1903,	United States,	38
32.	Alexander Gray,	January 20, 1903,	Scotland,	43
33.	Edwin C. Holbrook,	September 1, 1903,	United States,	45
34.	Chas. H. Hatfield,	February 14, 1905,	United States,	44
35.	Patrick Lynch,	June 5, 1905,	Ireland,	45
36.	John P. Sullivan,	October 18, 1905,	United States,	39
37.	Patrick J. O'Connor,	January 11, 1906,	Ireland,	36
38.	Thomas Maloney,	January 11, 1906,	Ireland,	36
39.	Frederick J. Runnells,	January 11, 1906,	United States,	34
40.	Marshall A. Belmer,	January 11, 1906,	United States,	33
41.	William J. Hurley,	April 3, 1906,	Ireland,	39
42.	Llewellyn D. Carey,	January 2, 1907,	United States,	40
43.	Wm. F. Goldrick,	January 22, 1907,	Ireland,	40
44.	Michael F. Sullivan,	January 22, 1907,	United States,	39
45.	Joseph D. Powers,	January 22, 1907,	United States,	36
46.	Edward Carey,	June 27, 1907,	Ireland,	40
47.	Neal Ferry,	June 27, 1907,	Ireland,	44
48.	Horace G. Clark,	January 14, 1908,	United States,	36
49.	Aime L. J. Letendre,	January 14, 1908,	Canada,	33
50.	Frederick P. Smith,	January 14, 1908,	United States,	34
51.	George F. Russell,	January 14, 1908,	United States,	35
52.	Joseph A. Murphy,	January 14, 1908,	United States,	39
53.	James A. Dowling,	January 14, 1908,	United States,	44
54.	James H. O'Brien,	January 14, 1908,	United States,	43
55.	John McNeil,	January 14, 1908,	United States,	29
56.	Durham N. Pepin,	January 14, 1908,	United States,	33
57.	Thomas B. Drinan,	January 14, 1908,	United States,	37
58.	Clarence E. Bradway,	January 14, 1908,	United States,	34
59.	James J. Collins,	January 14, 1908,	Ireland,	32
60.	Walter L. Henderson,	January 14, 1908,	Canada,	36
61.	Bernard F. J. Bergren,	January 14, 1908,	United States,	31
62.	Peter H. Walsh,	January 14, 1908,	Ireland,	36
63.	John F. Donoghue,	October 6, 1908,	United States,	31
64.	William S. Bates,	October 6, 1908,	United States,	37
65.	Daniel F. McCarthy,	July 6, 1909,	United States,	37
66.	John LaFond,	July 6, 1909,	United States,	36
67.	Patrick J. Fenton,	July 6, 1909,	Ireland,	45
68.	Frederick J. Sevigne,	August 5, 1909,	United States,	36
69.	Alfred H. Penfield,	December 18, 1909,	United States,	33

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No.	Name.	Date of Appointment.	Nativity.	Age.
70.	Robert Rennison,	June 7, 1910,	United States,	27
71.	John A. Hamberg,	August 16, 1910,	Sweden,	35
72.	Myron H. Bullard,	September 12, 1910,	United States,	32
73.	John A. Driscoll,	November 1, 1910,	United States,	40
74.	Harley H. Blodgett,	February 7, 1911,	United States,	37
75.	Charles Martens,	April 8, 1911,	United States,	29
76.	Perley J. Hewey,	June 7, 1911,	United States,	34
77.	William J. Hogan,	June 7, 1911,	United States,	32
78.	Herbert A. Clark,	June 7, 1911,	United States,	32
79.	John F. Carlton,	June 7, 1911,	United States,	29
80.	Ernest C. Smith,	August 22, 1911,	United States,	33
81.	James F. Mullins,	September 27, 1911,	United States,	32
82.	George E. Lynch,	March 25, 1912,	Ireland,	36
83.	Michael Flannery,	March 25, 1912,	Ireland,	36
84.	Howard F. Tourtellotte,	March 25, 1912,	United States,	26
85.	John G. Flynn,	March 25, 1912,	United States,	27
86.	Edward J. Slattery,	March 25, 1912,	United States,	41
87.	Michael J. Curley,	March 25, 1912,	Ireland,	32
88.	Arthur H. Carrigg,	March 25, 1912,	United States,	30
89.	Jeremiah B. O'Leary	March 25, 1912,	United States,	26
90.	Charles Hanlon,	March 25, 1912,	United States,	27
91.	John Hayes,	March 25, 1912,	Ireland,	38
92.	Patrick J. Keane,	March 25, 1912,	Ireland,	37
93.	Thomas F. Connery,	March 25, 1912.	United States,	32
94.	Louis H. Pilon,	March 25, 1912,	United States,	28
95.	Eugene F. Kelleher,	March 25, 1912,	United States,	24
96.	James P. Gray,	April 17, 1912,	United States,	29
97.	Thomas Kavanaugh,	April 23, 1912,	Ireland,	29
98.	Matthew P. Ryan,	July 8, 1912,	United States,	37
99.	William F. Lonergan,	July 29, 1912,	United States,	23
100.	Patrick B. Sullivan,	September 9, 1912,	United States,	26
101.	James J. Moylan,	October 24, 1912,	United States,	26
102.	Thomas J. Flemming,	October 24, 1912,	United States,	27
103.	Thomas A. Kennefick,	October 24, 1912,	United States,	30

RESERVE FORCE.

No.	Name.	Date of Appointment.	Nativity.	Age
104.	John W. Unwin,	April 1, 1912,	United States,	27
105.	James W. O'Keefe,	April 1, 1912,	United States,	33
106.	John H. St. Ledger,	July 1, 1912,	United States,	27
107.	Matthew J. Meade,	July 1, 1912,	United States,	25
108.	William G. Dale,	July 1, 1912,	United States,	23
109.	D. J. Manning, Jr.,	July 1, 1912,	United States,	23
110.	John B. Carrigg,	July 1, 1912,	United States,	28
111.	Peter J. Marra,	July 1, 1912,	United States,	28
112.	Frederick Cullen,	July 1, 1912,	United States,	32
113.	John C. Driscoll,	July 1, 1912,	United States,	24
114.	Cornelius P. Brosnan,	July 1, 1912,	United States,	33
115.	Charles C. Learned,	July 1, 1912,	United States,	26
116.	Antonio Forni,	July 1, 1912,	Italy,	40
117.	Michael J. O'Brien,	July 1, 1912,	United States,	25
118.	James F. Wood,	July 1, 1912,	Ireland,	27

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No.	Name.	Date of Appointment.	Nativity.	Age.
119.	Lovell S. Spaulding,	July 1, 1912,	United States,	34
120.	John J. Maloney,	July 8, 1912,	Ireland,	32
121.	Arthur E. Clifford,	September 9, 1912,	United States,	23
122.	Ed. D. Pepin,	September 9, 1912,	United States,	26
123.	Fred A. Champous,	September 9, 1912,	United States,	28
124.	William H. Hickey,	December 2, 1912,	United States,	22
125.	Raymond C. Vining,	December 2, 1912,	United States,	26

RETIRED.

Charles A. Haynes,	July 7, 1909,	United States,	64
William H. Sibley,	September 12, 1910,	United States,	60
David A. Newcomb,	October 8, 1912,	United States,	67
George L. DeForest,	October 15, 1912,	United States,	59

Constantin Pantasides, Clerk and Bertillon Operator.
Miss Anna A. Kelliher, Clerk.
Montague R. Marsh, Chauffeur.
Harry R. Button, Chauffeur.
Ellsworth Myers, Chauffeur.
Mrs. Maria E. Holley, Matron.
Mrs. D. E. Flanagan, Matron.
Miss Grace M. Conway, Tel. Operator.
Miss Esther W. Burlingham, Tel. Operator.
Samuel L. Wheeler, Electrician.
Clayton J. Lewis, Janitor.
Homer B. Smith, Janitor.
Mrs. Katherine Sheehan, Janitress.

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APPROPRIATIONS, EXPENDITURES, AND RECEIPTS.

Appropriation,		$174,200 00
Expenditures,	$174,078 37	
Balance,	121 63	
		$174,200 00
Receipts, Police Court,	$11,408 10	
All others,	2,087 56	
		$13,495 66

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TABULATED STATEMENT OF ARRESTS
For the Year Ending November 30, 1912.

MONTHS.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Totals.
Males	360	242	238	284	353	342	397	378	456	376	411	397	4,234
Females	26	17	17	26	15	14	23	24	41	29	30	33	295
Minors	34	29	20	30	51	52	58	62	63	30	31	60	520
Adults	352	230	235	280	317	304	362	340	434	375	410	370	4,009
Residents	292	167	192	219	234	242	284	289	358	270	304	294	3,145
Non-Residents	94	92	63	91	134	114	136	113	139	135	137	136	1,384
Americans	227	156	154	204	243	225	267	262	336	244	278	279	2,875
Foreigners	159	103	101	106	125	131	153	140	161	161	163	151	1,654
Totals	386	259	255	310	368	356	420	402	497	405	441	430	4,529

DISPOSITION OF CASES.

Fined and Paid	61	34	51	55	72	71	86	83	95	77	76	67	828
Fined and Committed	74	51	47	59	56	51	77	84	69	75	91	64	798
Committed for Sentence	59	48	31	40	45	27	36	36	56	38	49	70	535
Probated	10	9	3	12	8	18	25	9	11	8	10	22	145
Sentence suspended	36	45	52	53	55	59	69	95	75	66	86	57	748
Appealed	6	1	3			3	2	3		4	4	3	29
Bound Over to Superior Court	2	1	1		2			4	1			5	16
Released	45	44	38	35	42	55	55	60	92	57	44	41	608
Discharged	4	4	7	10	7	12	7	8	14	4	16	11	104
Filed Away	20	7	6	6	12	16	13	18	18	8	17	16	157

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WILLIAM J. QUILTY, Chief of Police.

SIR: I herewith submit to you the annual report of the arrests, cases investigated, property recovered, etc., by the Detective Bureau during the year 1912.

Accessory to burning a building,	1
Arson,	1
Assault,	4
Assault and robbery,	1
Assault to murder,	1
Assault with deadly weapon,	14
Assault, indecent,	2
Attempt, larceny,	4
Attempt to rape,	2
Bastardy,	6
Breaking and entering,	26
Burning a building,	1
Carrying loaded revolver,	5
Conducting detective bureau without license,	1
Contempt of court,	1
Driving away team,	2
Forgery,	2
Falsely hiring a team,	2
Fugitive from justice,	92
Injuring gas fixtures,	1
Larceny,	215
Larceny from the person,	7
Larceny from common carrier,	29
Larceny in a building,	9
Lewd and lascivious cohabitation,	4
Murder,	1
Non-support,	4
Peddling without a license,	2
Receiving stolen goods,	3
Selling leased property,	2
Vagrancy,	16
Violating automobile law,	3
Violating drug law,	1
Violating insurance law,	2

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Violating medical registration,	2	
Obscene literature,	1	
		472

Suspects brought in and investigated,	435
Total number of cases investigated,	3,336
Cases investigated for City Solicitor,	7
Cases investigated for License Commissioners,	12
Value of property reported stolen,	$10,478.81
Value of stolen property recovered,	8,491.62
Property recovered for other cities,	1,917.70

Respectfully submitted,

JOHN H. BOYLE,

Chief Inspector.

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Report of the Vice Squad to the Chief of Police for the year ending November 30, 1912.

ARRESTS.

Adultery,	2
Assault with dangerous weapon,	1
Bail bond,	1
Bastardy,	1
Common night walker,	1
Being present at illegal game,	7
Crime against chastity,	2
Drunkenness,	1
Fornication,	13
Gambling,	6
Indecent exposure,	1
Keeping disorderly house,	2
Keeping gambling house,	1
Lewd and lascivious cohabitation,	4
Non-support,	2
Rape,	2
Runaways,	2
Selling tobacco to minors,	1
Suspicious,	3
Vagrancy,	2
Violating automobile law,	21
Violating bicycle law,	0
Violating liquor law,	65
Violating Lord's day,	8
Violating opium law,	11
White slave traffic,	2
Total number of arrests,	162
Total number of cases investigated,	796
Cases investigated for City Solicitor,	12
Cases investigated for License Commission,	59
Cases investigated for State departments,	2
Fines imposed,	$5,989.00
Fines paid,	5,724.00
Posters approved, 10,750	
Posters disapproved, 674	
	11,424

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REPORT OF THE MATRONS.

	Female Prisoners.	Female Lodgers.	Lost Children.
December,	26	1	9
January,	17	3	1
February,	17	2	6
March,	26	1	5
April,	15	1	21
May,	14	0	16
June,	23	3	7
July,	24	3	11
August,	41	4	10
September,	29	2	12
October,	30	1	7
November,	33	2	3
	295	23	108

OFFENSES.

Adultery,	2
Assault,	1
Begging,	1
Breach of peace,	1
Common night walker,	8
Delinquents,	1
Disorderly house keeping,	4
Drunkenness,	176
Forgery,	1
Fornication,	34
Fugitive from justice,	3
Insane,	8
Larceny,	19
Lewd and lascivious cohabitation,	5
Non-support of child,	1
Opium, being present where kept,	1
Runaways,	4
Suspicious,	11
Stubborn child,	1

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Vagrancy,	5	
Violating liquor law,	5	
Violating school law,	1	
Witnesses in white slave case,	2	
		295

PATROL AND AMBULANCE REPORT.

MODEL G.				MODEL F.			
	Regular.	Emergency.	Fire.		Regular.	Emergency.	Fire.
December,	241	8	4	December,	158	1	5
January,	209	11	14	January,	80	2	2
February,	140	10	6	February,	87	1	6
March,	221	5	9	March,	91	7	2
April,	182	11	3	April,	216	9	15
May,	167	11	5	May,	145	4	7
June,	135	16	6	June,	215	7	15
July,	215	18	15	July,	168	5	9
August,	250	13	3	August,	226	3	3
September,	212	6	2	September,	206	2	3
October,	223	7	5	October,	241	1	10
November,	175	6	8	November,	269	2	6
	2,670	142	80		2,102	44	83
	2,892				2.229		

Number of miles run during the year, Model "G,"	4,056	
Number of miles run during the year, Model "F,"	2,757	
Number of miles run during the year, both autos,		6,813
Number of miles run by Model "G" during the four years it has been in commission,		19,675
Number of miles run by Model "F" during the eight years it has been in commission,		36,118

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OFFENSES.

Abandoning child,	1
Abduction,	1
Adultery,	5
Arson,	1
Assault and battery,	128
Assault on officer,	4
Assault with deadly weapon,	7
Assault with intent to rob,	1
Assault, indecent,	4
Attempt to break and enter,	1
Attempt to bribe,	1
Assault and robbery,	2
Bail bond,	1
Bastardy,	10
Being present at illegal game,	8
Being present where opium is kept,	11
Breaking and entering,	29
Breaking glass,	4
Breach of peace,	168
Carrying concealed weapon,	5
Carrying loaded revolver,	22
Causing a false alarm,	1
Common night walker,	8
Conducting detective bureau without license,	1
Cruelty to animals,	1
Defacing a building,	1
Destroying property,	6
Delinquents,	38
Deserters,	2
Disorderly conduct,	6
Disorderly house keeping,	4
Distributing obscene literature,	1
Disturbing a meeting,	3
Driving away a team,	5
Drunkenness,	2,523
Evading railroad fare,	4
False pretense,	1
Falsely hiring a team,	1

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Forgery,	1
Fornication,	66
Fugitive from justice,	77
Gambling,	16
Illegal game,	27
Illegal keeping of liquor,	15
Illegal notice posting,	1
Illegal practice of medicine,	3
Injury to real estate,	1
Insane,	14
Indecent exposure,	4
Interfering with railroad signals,	1
Keeping unlicensed dog,	16
Larceny, attempt,	2
Larceny,	232
Larceny from common carrier,	8
Larceny from the person,	8
Larceny from the building,	1
Laying shade trees,	7
Keeping gaming house,	1
Lewd and lascivious,	2
Lewd and lascivious cohabitation,	8
Malicious mischief,	10
Murder, attempt,	1
Murder,	2
Non-support,	58
Obtaining goods under false pretense,	1
Peddling without a license,	8
Profane and indecent language,	20
Promoting a lottery,	1
Rape,	2
Refusing to work,	5
Receiving stolen goods,	4
Robbery,	1
Runaways,	47
Selling leased property,	3
Selling pool tickets,	1
Setting fire to a building,	2
Stubborn and disobedient,	7
Surrendered by bondsman,	3

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Suspicious,	273
Taking and using,	2
Trespass,	56
Unlawful possession of cocaine,	1
Unnatural crime,	1
Uttering worthless checks,	2
Violating automobile law,	68
Violating city ordinance,	79
Violating condition of parole,	1
Violating curfew law,	3
Violating fire law,	2
Violating food law,	1
Violating game law,	2
Violating health law,	4
Violating insurance law,	2
Violating liquor law,	48
Violating Lord's day,	21
Violating minor law,	2
Violating park ordinance,	8
Violating plumbers' law,	2
Violating school law,	5
Violating smoke law,	10
Violating spitting law,	1
Violating statute law,	2
Violating Sunday law,	2
Violating traffic law,	38
Violating U. S. postal law,	1
Violating weights and measures law,	16
Vagrancy,	107
Walking railroad track,	62
	4,529

MISCELLANEOUS DUTIES.

Accidents reported,	237
Buildings opened and secured,	1,597
Defective streets reported,	50
Sidewalks reported defective,	254
Disturbances suppressed,	18

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Electric lights out,	2,097
Fire alarms given,	12
Fire alarms reported,	373
Fires extinguished by officers,	4
Intoxicated persons sent home,	13
Lost children restored,	52
Lights hung in dangerous places,	41
Teams put up,	15

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The following is a schedule and valuation of the property in charge of the Police Department:

PROPERTY AND BUILDINGS.

Court Street property,	$20,000.00
Court Street building,	116,000.00
Indian Orchard property and building,	4,000.00
Police signal system,	12,000.00

COMMISSIONERS' OFFICE.

1 table,	$44.00	
6 chairs,	30.00	
2 cuspidors,	4.00	
1 rug,	50.00	
1 telephone stand,	5.00	
1 four section cabinet,	12.00	
1 hatrack,	2.50	
1 wastebasket,	.50	
		$148.00

CHIEF'S OFFICE.

1 desk and chair,	$50.00	
1 rug,	40.00	
4 chairs,	10.00	
1 wardrobe,	25.00	
1 cuspidor,	1.00	
1 wastebasket,	.50	
1 bench,	12.00	
1 frame and picture,	75.00	
3 maps,	15.00	
1 clock,	16.00	
		$244.50

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CLERK'S OFFICE.

2 desks,	$50.00	
2 desk chairs,	15.00	
2 typewriter desks,	35.00	
2 typewriter chairs,	10.00	
1 armchair,	5.00	
2 Remington typewriters,	180.00	
1 table,	8.00	
1 safe,	100.00	
5 four section filing cabinets,	15.00	
1 five section card cabinet,	100.00	
1 two section card cabinet,	20.00	
1 three section filing cabinet,	15.00	
1 revolving cabinet,	10.00	
1 Burroughs adding machine,	100.00	
2 electric drop lights,	6.00	
1 cabinet,	6.00	
1 pencil sharpener,	7.00	
1 umbrella stand,	2.00	
2 wastebaskets,	1.00	
1 Webster's dictionary,	10.00	
1 atlas,	10.00	
1 city directory,	4.00	
1 Beck duplicator,	10.00	
1 frame and picture,	10.00	
3 frames,	3.00	
Stationery, time books, envelopes, record books, arrest cards, arrest books, property envelopes, patrolmen's reports, etc., etc.,	500.00	
		$1,232.00

BERTILLON ROOM.

1 Bertillon outfit complete,	$700.00
1 Century camera complete,	125.00
1 finger print stand and fixture,	8.00
1 table,	5.00
1 Fairbanks' scales,	23.00
1 picture gallery,	18.00

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1 mounting machine,	$18.00	
2 wastebaskets,	1.50	
1 electric fan,	16.00	
Photographic supplies,	30.00	
		$944.50

INSPECTORS' ROOM.

5 roll top desks,	$80.00	
5 armchairs,	12.50	
5 armchairs,	10.00	
5 cuspidors,	1.00	
5 lockers,	55.00	
5 wastebaskets,	1.50	
1 cabinet,	30.00	
Books, etc.,	20.00	
		$210.00

PRIVATE ROOM.

1 long table,	$12.00	
4 armchairs,	8.00	
		$20.00

CHIEF INSPECTOR'S ROOM.

1 desk,	$20.00	
1 safe,	50.00	
1 electric drop light,	5.00	
1 swivel chair,	6.00	
4 chairs,	8.00	
2 frames,	1.00	
1 city directory,	4.00	
1 cuspidor,	1.50	
1 wastebasket,	.50	
		$96.00

DEPUTY CHIEF'S ROOM.

1 desk,	$15.00
1 swivel chair,	5.00
3 armchairs,	6.00

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1 safe,	$30.00	
1 relic cabinet,	25.00	
1 revolving bookcase,	2.00	
1 box of blanks,	2.00	
1 clock,	10.00	
1 cuspidor,	.50	
1 drop light,	3.50	
1 locker,	11.00	
Pictures,	2.00	
		$112.00

CAPTAIN'S ROOM.

1 desk,	$38.00	
1 swivel chair,	6.00	
1 armchair,	2.00	
1 cuspidor,	.50	
1 wastebasket,	.50	
1 revolver case,	5.00	
1 locker,	11.00	
1 electric drop light,	5.00	
Frames, etc.,	15.00	
		$83.00

SIGNAL ROOM.

1 clock,	$15.00	
2 swivel chairs,	10.00	
2 frames,	1.00	
1 wastebasket,	.50	
2 lockers,	22.00	
		$48.50

GENERAL OFFICE.

2 swivel chairs,	$10.00	
1 city directory,	4.00	
1 arrest book,	10.00	
1 wastebasket,	.50	
1 clock,	17.50	
2 cuspidors,	1.00	
3 frames,	12.00	
		$55.00

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LIEUTENANT'S ROOM.

2 desks,	$40.00	
2 swivel chairs,	10.00	
1 table,	2.00	
1 electric drop light,	5.00	
1 locker,	11.00	
		$68.00

EMERGENCY ROOM.

1 table,	$20.00	
1 stand,	10.00	
1 bowl stand,	10.00	
1 steam sterilizer,	10.00	
Drugs, etc.,	10.00	
		$60.00

MATRONS' ROOM.

1 desk,	$15.00	
2 rockers,	12.00	
2 armchairs,	5.00	
3 rugs,	75.00	
1 mirror,	4.00	
1 stand,	2.00	
1 leather couch,	18.00	
1 bureau,	5.00	
1 stand,	1.00	
1 clock,	6.00	
		$143.00

MEN'S DETENTION ROOMS.

2 couches,	$10.00	
2 hair mattresses,	20.00	
2 pillows,	4.00	
4 chairs,	4.00	
		$38.00

WOMEN'S DETENTION ROOMS.

2 beds, springs, mattresses, etc.,	$50.00	
4 chairs,	8.00	
		$58.00

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WOMEN'S LOCKUP.

6 mattresses,	$32.00	
6 pillows,	5.00	
		$37.00

MEN'S LOCKUP.

1 clock,	$10.00	
		$10.00

COURT ROOM.

Furniture,	$500.00	
		$500.00

JUDGE'S ROOM.

1 desk,	$15.00	
4 armchairs,	6.00	
1 cuspidor,	.50	
		$21.50

CLERK OF COURT.

1 table,	$10.00	
1 chair,	2.00	
1 electric lamp,	8.00	
		$20.00

PROSECUTING ATTORNEY'S ROOM.

1 desk	$20.00	
1 swivel chair,	5.00	
2 armchairs,	4.00	
		$29.00

WITNESS ROOM.

8 chairs,	$8.00	
		$8.00

JUVENILE COURT ROOM.

1 table,	$9.00	
2 benches,	24.00	
2 chairs,	4.00	
		$37.00

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SERGEANTS' ROOM.

6 flat top desks,	$55.00	
6 armchairs,	16.00	
2 chairs,	3.00	
6 wastebaskets,	2.00	
6 cuspidors,	1.00	
2 frames,	1.00	
3 maps,	9.00	
		$87.00

LOCKER ROOM.

126 lockers,	$1,043.00	
30 chairs,	30.00	
1 water filter,	15.00	
		$1,088.00

VICE SQUAD ROOM.

3 desks,	$42.00	
6 chairs,	18.00	
1 table,	5.00	
3 lockers,	33.00	
		$98.00

ASSEMBLY ROOM.

1 table,	$20.00	
38 chairs,	57.00	
1 blackboard,	20.00	
3 frames,	3.00	
6 wire nets for lights,	3.00	
		$103.00

RECORD ROOM.

1 Neostyle machine,	$30.00	
1 cloth chest,	5.00	
1 cabinet,	10.00	
Shelves,	40.00	
		$85.00

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REVOLVER RANGE.

Revolver range,	$400.00	
Target plates,	40.00	
Ammunition, 20,000 rounds,	250.00	
		$690.00

EQUIPMENT.

150 revolvers,	$1,500.00	
150 badges,	150.00	
150 pairs handcuffs,	525.00	
6 superior officers' badges,	48.00	
10 inspectors' badges,	17.50	
250 belts,	315.00	
150 clubs,	100.00	
150 parade clubs,	150.00	
150 parade tassels,	75.00	
150 leaders,	75.00	
175 signal box keys,	35.00	
160 flash lights,	160.00	
160 diaries,	110.00	
150 belts and holsters,	225.00	
200 copies of rules and regulations,	100.00	
260 emblems for caps,	130.00	
6 emblems for caps,	5.00	
Uniform cloth,	200.00	
Buttons, batteries, etc.,	100.00	
		$4,020.50

STOREROOM.

1 American flag,	$8.00
1 linen box,	2.00
210 towels,	10.00
16 roller towels,	1.60
1 iron bed and spring,	2.00
1 wooden bed and spring,	2.00
1 mattress,	2.00
75 feet of hose,	5.00
1 hose reel,	5.00

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1 coal hod,	$1.00	
2 shovels,	1.00	
1 wheelbarrow,	2.00	
2 cupboards,	14.00	
1 mowing machine,	3.00	
1 grass hook,	1.00	
16 lockers,	75.00	
1 Fairbanks' scales,	5.00	
40 drinking cups,	4.00	
2,500 paper cups,	15.00	
		$158.60

JANITORS' SUPPLIES.

1 barrel liquid soap,	$30.00	
40 bars soap,	2.00	
250 pounds soap powder,	7.50	
5 gallons exterminating gas,	7.50	
2 gallons disinfectant,	10.00	
5 gallons Egyptian spray,	25.00	
75 pounds Dutch Cleanser,	3.00	
40 electric light globes,	24.00	
10 ash cans,	20.00	
3 chairs,	3.00	
1 stepladder,	5.00	
1 stepladder,	3.00	
1 extension ladder,	6.00	
Mops, brooms, brushes, etc.,	15.00	
		$161.00

GARAGE.

1 Model "R" automobile patrol,	$3,500.00
1 Model "G" automobile patrol,	2,500.00
1 Model "F" automobile patrol,	800.00
1 touring car,	1,400.00
1 set of tools,	50.00
4 lockers,	20.00
1 workbench,	30.00
87 feet of water hose,	9.00
Cotton waste,	5.00

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2 extra shoes for cars,	$50.00	
3 extra inner tubes for cars,	25.00	
1 lap robe,	6.00	
700 feet of rope,	15.00	
2 stretchers,	15.00	
3 sets grappling irons,	7.50	
3 lanterns,	1.50	
6 gallons of oil,	2.00	
25 gallons of gasoline,	2.75	
15 pounds of grease,	1.50	
1 cupboard for oil and gasoline,	25.00	
3 pictures,	3.00	
1 desk,	6.00	
3 chairs,	6.00	
4 sets of tire chains,	10.00	
1 set of pulley blocks,	5.00	
1 vise,	5.00	
20 feet of tire chain,	2.00	
10 pounds of automobile soap,	1.00	
Sponges and chamois,	4.00	
Pail, shovel, ice pick,	2.00	
25 pounds of carbide,	1.00	
1 water cooler,	3.00	
1 electric vulcanizer,	25.00	
3 automobile drip pans,	8.00	
82 iron stakes,	40.00	
2,000 feet of rope,	25.00	
1 ambulance basket,	5.00	
1 hand grinder,	8.00	
1 drill press	18.00	
		$8,642.25

CORRIDORS, ETC.

3 mats,	$18.00	
12 cuspidors,	12.00	
3 benches,	36.00	
1 water filter,	15.00	
Linoleum in building,	500.00	
Shades,	100.00	
		$681.00

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BICYCLE ROOM.

9 bicycles,	$225.00	
1 bicycle rack,	3.00	
		$228.00

STATION NO. 2, INDIAN ORCHARD.

1 roll top desk,	$15.00	
2 swivel chairs,	10.00	
5 office chairs,	5.00	
1 clock,	10.00	
1 mirror,	1.00	
1 wastebasket,	.15	
1 blotter, 1 detail book,	1.00	
1 electric drop light,	1.50	
2 cuspidors,	.30	
1 iron bed and spring,	5.00	
2 mattresses,	2.00	
2 bed blankets, 2 spreads,	5.00	
7 sheets, 1 pillow, 10 slips,	5.00	
9 towels,	1.00	
1 feather duster,	.30	
1 rug,	1.50	
1 dipper, 1 wash basin,	.40	
3 brooms, 1 mop, 1 pail,	1.25	
2 shoe brushes, 1 dustpan,	.40	
3 lanterns,	1.50	
1 gallon kerosene oil can,	.25	
1 stepladder,	2.00	
9 window screens, 1 door,	6.00	
9 patrolmen's lockers,	220.00	
1 piece of hose,	1.00	
10 ash cans, 1 coal shovel,	8.00	
2 bicycles,	25.00	
1 stretcher,	3.00	
2 sets grappling irons,	5.00	
1 patrol wagon,	90.00	
1 Harness,	12.00	
6 feet wood,	6.00	
40 tons coal,	240.00	
		$685.55

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RECAPITULATION.

Court street property,	$20,000.00
Court street building,	116,000.00
Indian Orchard property and building,	4,000.00
Police signal system,	12,000.00
Commissioners' office,	148.00
Chief's office,	244.50
Clerk's office,	1,232.00
Bertillon room,	944.50
Inspectors' room,	210.00
Private room,	20.00
Chief inspector's room,	96.00
Deputy chief's room,	112.00
Captains' room,	83.00
Signal room,	48.50
General office,	55.00
Lieutenants' room,	68.00
Emergency room,	60.00
Matrons' room,	143.00
Men's detention rooms,	38.00
Women's detention rooms,	58.00
Women's lockup,	37.00
Men's lockup,	10.00
Court room,	500.00
Judge's room,	21.50
Clerk of court,	20.00
Prosecuting attorney's room,	29.00
Witness room,	8.00
Juvenile court room,	37.00
Sergeants' room.	87.00
Locker room,	1,088.00
Vice squad room.	98.00
Assembly room,	103.00
Record room,	85.00
Revolver range,	690.00
Equipment,	4,020.50
Storeroom,	158.60
Janitors' supplies,	161.00

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Garage,	$8,642.25	
Corridors, etc.,	681.00	
Bicycle room,	228.00	
Station No. 2, Indian Orchard,	685.55	
		$172,950.90

Respectfully Submitted,

W. J. QUILTY,

Chief of Police.

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WATER COMMISSIONERS.

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CITY OF SPRINGFIELD, MASSACHUSETTS, WATER DEPARTMENT.

1913.

BOARD OF WATER COMMISSIONERS.

FRED R. BROWN, *Chairman*,	Term expires February 1, 1915.
HERBERT C. PUFFER,	Term expires February 1, 1914.
JOHN A. DENISON, *Mayor*,	ex officio.

SUPERINTENDENT:

ALFRED E. MARTIN.

WATER REGISTRAR AND CLERK OF BOARD:

ALFRED R. HATHAWAY.

CHIEF ENGINEER:

ELBERT E. LOCHRIDGE.

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WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE.
121 BRIDGE STREET,
SPRINGFIELD, MASS., December 30, 1912.

To the City Council of the City of Springfield, Mass.

GENTLEMEN:—The Board of Water Commissioners herewith submits its thirty-ninth annual report, being for the fiscal year ending November 30, 1912, together with the reports of its Water Registrar, Superintendent and Chief Engineer.

FINANCIAL.

For the first time in the history of the department there is a decrease in the total cash receipts for water. The sum of $333,828.67 was received for the sale of water, this amount being $7,228.73 less than the receipts of 1911. The increase a year ago was $18,211.56. Changes in the method of sale from a fixed rate to sale by meter measurement account for this difference, inasmuch as rated water was billed and collected for in *advance* covering a six months' period, while metered water is billed at the *close* of each quarter. This has deferred a portion of the receipts of the department nine months and has lowered the income this year. The total cash receipts from all sources, including sales and first payment of $6,250 on the sale of the Bridge street property, were $420,324.36. The ordinary extensions of mains into districts not supplied heretofore cost $20,595.78. Another section of the twenty-four-inch cement-lined main in State street, 1,462 feet in length, extending from the New England tracks to College street was

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replaced by cast-iron at an expense of $7,550.63. Another section of this same 24-inch main, but in the town of Ludlow, was also replaced by cast-iron because of changes made necessary by the construction of the Hampden railroad. The total cost for extensions and improvement of the distribution system within the city was $50,789.76.

During the year $18,375 was paid as interest on Ludlow bonds, and $70,330 on Little River bonds, making a total expenditure of $88,705 on interest account. Little River bonds were reduced by a serial payment of $60,000 and the sinking fund increased $22,798.94 on account of Ludlow bonds. This makes a total payment of $171,503.94 on interest, bonds and sinking fund accounts for the year. The total cash expenditures for all purposes, including maintenance, construction, interest, bond payments and sinking fund, were $420,324.36.

The net total Little River bonded indebtedness now amounts to $1,908,000. The remaining indebtedness on account of the Ludlow system is $475,000, with $249,516.24 available for the retiring of this latter amount when due. Of these bonds $200,000 will become due April 1, 1913, and after their payment the sinking fund accumulated to retire the issues becoming due in 1920 and 1923 will amount to $49,-516.24. This bond payment reduces the Ludlow bonded indebtedness to $275,000 and, deducting the sinking fund, the net indebtedness on the Ludlow system to $225,483.76. During 1913, $67,885 and $14,375, respectively, will be needed for interest charges on the Little River and Ludlow bonds, a total for the year of $82,260. Serial retirements of $74,000 in Little River bonds and $22,000 for addition to the Ludlow sinking fund will make a total reduction on account of principal of $96,000 from the 1913 funds of the department and a total for principal and interest of $178,260. The present period of rapid growth has forced us to ask the privilege of issuing bonds

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for construction required by the best interests of the city and made impossible from revenue, on account of the too rapid retirement of bonds at this particular time.

The demand for the extension of the water mains to portions of the city heretofore not built up has been the greatest in the history of the department. More demands for water and fire protection have been made during the last few months than ever before, and that many other extensions will be demanded seems probable at this time. The policy of former, as well as the present, commissioners is to make these extensions as rapidly as possible, thus developing taxable property and giving to all within the city the best service that the finances of the department will permit. It now seems necessary to ask that some of these construction expenses be met by a bond issue, which, however, is not to increase the total bonded indebtedness of the department but to replace bonds now being retired. If the department is to continue its work efficiently some such measure will be necessary.

LITTLE RIVER SUPPLY.

The Little River water has been in use three years and the problems confronting the Board have been a little different than heretofore. The quality of the water has been excellent and no restrictions on its use have been imposed, as in many of our neighboring cities.

The planting of white pines on the watersheds was started this year, and it is hoped that succeeding commissioners will see fit to continue this work, which we believe will insure improved conditions and value on the land owned by the city on the watersheds.

During the year the Berkshire Street Railway has secured a location across our watershed for their through line connecting the Springfield and Pittsfield trolley systems. Following the opposition of this Board before the legislature and the state

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railroad commissioners, very stringent sanitary regulations, safeguarding the health of the people of the city of Springfield, were imposed upon the railroad company. This work is well started and the city has had constant oversight of the camps and work of the men, with medical reports of their health, and has enforced other restrictions necessary for efficient supervision.

A site for an additional reservoir at the head waters of Pebble brook, the northern branch of the Little River, has been acquired by condemnation.

Settlements with Crane Brothers and with Foster Machine Company, who were deprived of water by the Little River diversion, have been made during the year.

METERS.

The policy of the Board for a number of years has been towards extending the meter system until every connection would furnish water by measurement only. Over 3,000 meters were added during the year and something less than 1,000 unmetered connections remain where meters are to be installed next year. This indicates that long before the incoming year has closed, the services within the city, except those of municipal buildings, will be equipped with means for accurately measuring the amount of water used.

We wish to call your attention to the fact that the municipality is the largest user of water on the system, and, as no revenue is collected from such service, meters should be placed on all municipal buildings that this department may be assured that water is used and not wasted. When it is understood that the cost of water is proportional to the amount of water filtered and delivered in the city, it will be seen that one of the largest items of expense to this department is the amount wasted. Use of water by the city departments, from whom

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no pay is received, amounts at regular rates to $66,129.88. The following is a list:

	No. of Connections.
Municipal building (old), Pynchon street,	1
Municipal group (new), Court street,	7
Fire department, buildings, sundry streets,	17
Forestry department, buildings, Pecousic avenue,	1
Highway department, City yard, Summer street,	2
Park department, Forest park, sundry streets,	3
Park department, Van Horn reservoir park, Armory street,	3
Park department, public parks and fountains, sundry streets,	23
Park department, public playgrounds, sundry streets,	8
Pauper department, Almshouse buildings, State street,	1
Police department, buildings, Water street and Worcester street, I. O.,	2
Scavenger department, etc., buildings, State and Main streets,	3
School department, buildings, sundry streets,	48
Drinking tanks, for animals, sundry streets,	12
Drinking fountains, for persons, sundry streets,	6
Standpipes, for cart-sprinklers for street-watering, sundry streets,	144
Number of connections included in total service taps (eight metered),	281
Track hydrants, for car-sprinklers for street-watering, sundry streets (4″ and 6″ gates),	30
Sewer department, flushing, sundry streets (1¼″ to 4″ gates),	516
Fire department, fire hydrants, sundry streets,	1,466
Street and sewer departments, builders' use, sundry streets (from fire hydrants),	....

As an illustration of the saving which can be effected on municipal connections even when no charge is made, but where care is exercised in the use of water, 3,677,100 gallons were used at the Central High School, representing at minimum rates a value of $1,838.55, while on the same basis in 1911 $3,675 represented the value of the water used.

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There were, on December 1st, 11,635 metered supplies in the city out of a total of 13,407 supplies, including the 281 municipal supplies tabulated above. The proportion of metered service to the total is 87%. The amount of water used through these meters represents 54% of the total water furnished, while 84% of the water revenue is derived from the sale of metered water.

SUBURBAN TOWNS.

The Massachusetts Legislature, at its last session, passed a bill permitting the sale of water to any town or city in Hampden county except the city of Holyoke, and there have been several requests for service, or water supply committees appointed to investigate the feasibility of securing a supply for their town from Springfield, while two contracts have been entered into for the sale of water to towns. This act is given in full in Appendix I. A contract has been entered into with the town of Agawam for a supply through a Venturi meter at the Springfield main for the domestic and fire supply of the village of Feeding Hills. This water is now available. A contract for an emergency connection for the town of Longmeadow has been signed and the work of its installation is practically complete. This contract is similar to one now in force with the town of West Springfield and permits the use of Springfield water in Longmeadow in case of emergency only.

A Venturi meter has also been ordered, to measure the supply to the town of Ludlow. Studies made to determine the size of this meter revealed large leakages in their distribution mains, which have been stopped.

The coming year may bring applications or calls for consideration of supplies from East Longmeadow, a portion of Wilbraham and additional portions of the towns of Agawam and Longmeadow.

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CHANGES WITHIN THE CITY.

The property of this department lying between Bridge street and Wight place, which has been the home of the department since the purchase of the water works from the Springfield Aqueduct Company in 1872, was sold in July to the Broadway Realty Trust for $125,000 and the further considerations, to wit: the return to the city of a sixty-foot street through the property, the reservation to the department of a lot fifty feet in width on the new street and two years' occupancy of the present buildings. The complete contract is given in Appendix II. This sale has brought about many new problems, the first in importance being the securing of a new site for yards and Superintendent's department. A lot between the New England tracks and Colton street, a short distance south of State street, has been acquired for this purpose. The site has been cleared by the removal of six houses and the moving of a seventh to a point where it will be available for employees, and plans have been drawn for a building adequate for the needs of the Superintendent. The construction of this building will be carried on to secure work room for the department before the present buildings are vacated under the contract.

The details of the financial, statistical, construction, distribution and supply matters given in the reports submitted to the Board by the Water Registrar, Superintendent, and Chief Engineer, with their accompanying appendices, are attached to and made a part of this report.

Respectfully submitted,

FRED R. BROWN,
EDWARD H. LATHROP,
H. C. PUFFER,

Board of Water Commissioners.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield, Mass.

GENTLEMEN:—The following report of the Water Registrar for the year ending November 30, 1912, is herewith submitted:—

I had hoped, that, with the changes in the municipal accounting system (inaugurated during the past year) the December warrant of the November bills would be included in the expenses of the fiscal year for 1912, as advised by the State Bureau of Statistics' accountant in his recent study of the city's bookkeeping, and in accordance with the suggestions made in my report for 1911, to which your attention is again directed.

The differences between the *work-year* and *cash-year* totals are shown at the end of the following statements of work and expenditures charged during 1912, and in the summary of same, as heretofore.

The usual division of all statements into three principal classifications is made, as follows:—

1.—General Financial Statements.

2.—Detail Financial Statements.

3.—Miscellaneous Statements.

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1.—GENERAL FINANCIAL STATEMENTS.

WATER-WORKS CASH ACCOUNT.—1912.

(*Exclusive of Little River Supply Fund.*)

To collections paid City Treasurer by City Collector (total cash receipts) (including $3,387.50 interest for use of Little river supply funds and $12,000.00 transfer from Little river supply fund; also $5,168.47 received from Hampden Railroad Company for work on mains necessitated by the building of the railroad), ...	$414,057 97	
To cash reversions from pay roll envelopes unclaimed, account 1909, 1910, and 1912, ...	16 39	
To agreed amount of first payment on account of sale of Bridge street property (added to water-works account in accordance with order of City Council, approved July 8, 1912), . . .	6,250 00	
		$420,324 36

By approved bills and pay rolls paid from water-works receipts by City Treasurer, as follows:—		
Total bills approved and paid, . .	$141,701 62	
Total pay rolls approved and paid, .	107,118 80	
Amount forward, ...	$248,820 42	

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Amount forward, ...	$248,820 42	
By interest on water bonds paid by City Treasurer, as follows:—		
Account Ludlow supply, $18,375 00		
Account Littleriversupply, 70,330 00		
	88,705 00	
By payment on bonds due, on account of Little river supply, ...	60,000 00	
Total cash payments from water-works receipts, ...	$397,525 42	
By surplus balance for sinking fund (account of Ludlow supply bonds), ...	22,798 94	
		$420,324 36

LITTLE RIVER SUPPLY FUND.—1912.

To cash balance in hands of City Treasurer, November 30, 1911, ...	$190,127 94
To cash reversion from sundry sales of material and supplies, ...	169 37
Total cash available, in 1912, ...	$190,297 31
By approved bills and pay rolls paid by City Treasurer, 1912, as follows:—	
Total bills approved and paid, . . $146,936 91	
Total pay rolls approved and paid, . 2,035 26	
148,972 17	
To cash balance in hands of City Treasurer, November 30, 1912, ...	$41,325 14

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The following statements show the *net cost* of maintenance, construction, sales, and surplus material accounts *charged* during the past *work-year*, together with totals and summary of same conforming to the *cash-year:*—

MAINTENANCE.—1912.

General management and repairs (operating) —including engineering, meter setting (ordinary) and repairs, filter operating, etc.:—		
Ordinary (as heretofore),	$80,096 29	
Little river supply operating (additional),	29,019 21	
		$109,115 50
Distribution mains,—renewal:—		
Streets,—ordinary,	$194 70	
Streets,—improvement,	10,847 07	
		11,041 77
Damages (account broken mains, etc.),	$786 48	
Distribution mains, cast-iron—care and repairs (thawing and lowering mains),	592 83	
Distribution mains, wrought-iron—care and repairs (thawing and lowering mains),	254 34	
Frozen services,	2,916 57	
Meter installing (expense account metering all services),	3,200 00	
Legislative expenses (in connection with suburban supply act of 1912 amending act of 1906),	518 63	
Office work, special (account changing system, etc.),	547 95	
Little river supply—operating, watershed, (account trolley line),	1,498 61	
		10,315 41
Total maintenance charged (not including interest), 1912 (forward),		$130,472 68

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Total maintenance charged (not including interest), 1912 (forward),			$180,472 68
Less *value* of water used by Water Department ($118.00), and *value* of house rent allowed employees ($1,504.04), both included above, but *not cash*,			1,622 04
Net total maintenance charged, 1912 (from bills and pay rolls approved on account of 1912 *work*, etc.) (not including interest),			$128,850 64
Cost of 1912 "Sales" charged for services, meters, repairs, etc. (net),			68,920 61
Net total maintenance and sales-cost charged 1912 (from bills and pay rolls approved on account of 1912 *work*, etc.) (not including interest),			$197,771 25
Plus November, 1911, work paid from 1912 cash receipts,	$5,222 03		
Less material and labor charged November, 1912, work, paid from 1913 cash receipts,	4,144 64		
Plus net difference of November accounts,			1,077 39
			$198,848 64
Less material paid for previous to 1912 (included in inventory of November 30, 1911), charged to 1912 accounts,			5,388 66
Net total maintenance and sales-cost (not including interest) paid from 1912 *cash* receipts (forward),			$193,459 98

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Net total maintenance and sales-cost (not including interest) paid from 1912 *cash* receipts (forward), ...		$193,459 98
Interest paid on water bonds from 1912 *cash* receipts, ...		88,705 00
Net total maintenance, 1912 (including sales-cost and interest), paid from 1912 *cash* receipts, ...		$282,164 98

CONSTRUCTION.—1912.

(*Exclusive of Little River Supply.*)

Distribution mains,—extensions:—		
Streets,—ordinary, ...	$20,595 78	
Streets,—improvement, ...	19,152 21	
Total distribution mains,—extension, ...		$39,747 99
Hydrants,—extension,—all ordinary, . .	$2,573 72	
Gates and valves,—extension,—all ordinary,	2,659 77	
		5,233 49
Total added to distribution system, ...		$44,981 48
Real estate,—Colton street property, . .	$13,245 67	
Real estate,—Ludlow supply (improvement), ...	450 25	
Total real estate improvement, ...		13,695 92
Total construction charged (forward), . . .		$58,677 40

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Total construction charged (forward), . . .		$58,677 40
Less amount credited "Distribution mains—general":—		
Account overcharge 1911 work, . .	$42 00	
Account material returned from Warehouse street, ...	51 66	
		93 66
Net total construction charged, 1912 (from bills and pay rolls approved account of 1912 *work*, etc.), ...		$58,583 74
Plus November, 1911, work paid from 1913 cash receipts, ...	$1,930 38	
Less material and labor charged November, 1912, work, paid from 1913 cash receipts, . .	328 57	
Plus net difference of November accounts, ...		1,601 81
		$60,185 55
Less material paid for previous to 1913 (included in inventory of November 30, 1911), charged to 1913 accounts, ...		8,565 78
Total construction 1912, paid from 1912 *cash* receipts (see credit following), ...		$51,619 77
Less amount of first payment received from sale of Bridge street property (credited real estate account), ...		6,250 00
Net total construction added 1912 from 1912 *cash* receipts, ...		$45,369 77

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INVENTORY.—1912.

Decrease of 1912 "Inventory" from 1911 inventory, ...		$14,489 52
Material in 1911 inventory, paid from 1912 cash receipts (charged November, 1911), . .	$12,534 04	
Material in 1912 inventory to be paid from 1913 cash receipts (charged November, 1912), .	8,258 29	
Plus net difference of November accounts, .	$4,275 75	
Material used in 1912 work (see construction and maintenance accounts) paid for previous to 1912, ...	13,954 44	
Plus net difference material used in 1912 work, paid for from cash receipts of other years, ...		18,230 19
Net total portion of November 30, 1912, inventory paid from 1912 *cash* receipts, . . .		$3,740 67

SUMMARY OF WORK AND EXPENDITURES CHARGED.—1912.

(*Exclusive of Little River Supply.*)

Accounts Charged.	*Net* Total Cost Charged Work, etc., During 1912. (Including Interest and Bonds Paid.)	Plus or Minus Nov., 1911 and 1912, Approved Accts. Paid from Cash Receipts of Following Year. Net Differences.	Material Paid for Prior to 1912, Charged in 1912 Work.	Net Total Paid from 1912 *Cash* Receipts.
Construction, . .	$58,583 74	+ $1,601 81	— $8,565 78	$51,619 77
Maintenance, . .	128,850 64	+ 1,077 39	— 5,388 66	193,459 98
Sales,—cost, . .	68,920 61			
Inventory, . . .	—14,489 52	+ 4,275 75	+ 13,954 44	3,740 67
Interest payments,	88,705 00	.....	.....	88,705 00
Bond payments, .	60,000 00	.....	.....	60,000 00
Totals (net), . .	$390,570 47	+ $6,954 95	.....	$397,525 42

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COST OF WATER WORKS.—1912.

Ludlow Supply, Distribution System and City Real Estate:—

Net total cost November 30, 1911 (per last report),		$2,907,444 50
Net total cost charged, 1912 (from approved bills and pay rolls),	$58,583 74	
Less amount of first payment received from sale of Bridge street real estate,	6,250 00	
Net total cost added, 1912,		52,333 74
Net total cost of Ludlow supply, etc., November 30, 1912,		$2,959,778 24

Little River Supply:—

Net total cost November 30, 1911 (per last report),		$1,840,334 24
Net total cost charged, 1912 (from approved bills and pay rolls),	$148,972 17	
Less cash reversions (account of sales),	169 37	
Net total cost added, 1912,		148,802 80
Net total cost of Little river supply, November 30, 1912,		$1,989,137 04
Net aggregate cost of water works, November 30, 1912,		$4,948,915 28

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BONDED DEBT.—1912.

(*As per books of City Treasurer.*)

Ludlow Supply Bonds:—

125	water bonds (per value $1,000 each), bearing interest at 3½ per cent. (payable semi-annually, April 1 and October 1), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920,		$125,000 00
350	water bonds (par value $1,000 each), bearing interest at 4 per cent. (payable semi-annually, April 1 and October 1), issued in 1893 for Ludlow Main No. 2, and due as follows:—		
	$200,000 payable April 1, 1913,	$200,000 00	
	$150,000 payable October 2, 1923,	150,000 00	
			350,000 00
	Total account Ludlow supply, November 30, 1912,		$475,000 00

Little River Supply Bonds:—

270	serial water bonds (par value $1,000 each), bearing interest at 4 per cent. (payable semi-annually, July 1 and January 1), dated January 1, 1907; $10,000 payable annually beginning January 1, 1910, and ending January 1, 1936,	$270,000 00	
	Less following payments:—		
	January 1, 1910, $10,000 00		
	January 1, 1911, 10,000 00		
	January 1, 1912, 10,000 00	30,000 00	
	Net amount due on first issue,	$240,000 00	
	Amounts forward,	$240,000 00	$475,000 00

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Amounts forward, ...	$240,000 00	$475,000 00
270 serial water bonds (par value $1,000 each), bearing interest at 4 per cent. (payable semi-annually, July 1 and January 1), dated January 1, 1908; $10,000 payable annually beginning January 1, 1911, and ending January 1, 1937, . . . $270,000 00		
Less following payments:—		
January 1, 1911, $10,000 00		
January 1, 1912, 10,000 00 20,000 00		
Net amount due on second issue, .	250,000 00	
1,080 serial water bonds (par value $1,000 each), bearing interest at 3½ per cent. (payable semi-annually, July 1 and January 1), dated January 1, 1909; $40,000 payable annually beginning January 1, 1912, and ending January 1, 1938, . . . $1,080,000 00		
Less following payments:—		
January 1, 1912, . . 40,000 00		
Net amount due on third issue, .	1,040,000 00	
378 serial water bonds (par value $1,000 each), bearing interest at 3½ per cent. (payable semi-annually, July 1 and January 1), dated January 1, 1910; $14,000 payable annually beginning January 1, 1913, and ending January 1, 1939, ...	378,000 00	
Net total account Little river supply, November 30, 1912, ...		1,908,000 00
Total bonded debt, November 30, 1912, . . .		$2,383,000 00

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SINKING FUND.—1912.

(*Account Ludlow Supply Bonded Debt.*)

Balance in hands of sinking fund commissioners, November 30, 1911,	$208,531 11
Net surplus transferred from water-works receipts of 1911,	9,952 96
Interest earnings and additions credited by sinking fund commissioners, 1912 (net),	8,233 23
Balance in hands of sinking fund commissioners, November 30, 1912,	$226,717 30
Available *net* surplus from water-works receipts of 1912,	22,798 94
Total amount available, November 30, 1912,	$249,516 24

INVENTORY.—1912.

The value of stock, tools, furnishings, fixtures, etc., on hand November 30, 1912 (as reported by the Superintendent and the Chief Engineer), is shown as follows:—

Accounts.	Superintendent.	Engineer.	Totals.
Automobiles,	$6,792 00	. . .	$6,792 00
Cast-iron pipe stock,	42,069 96	$346 42	42,416 38
Engineering apparatus,	. . .	1,070 75	1,070 75
Filter supplies (Ludlow),	. . .	946 21	946 21
Furniture and fixtures.	3,264 30	27 70	3,292 00
Meter stock,	9,006 67	. . .	9,006 67
Stores and supplies,	1,902 21	86 45	1,988 66
Teams,	3,181 28	245 85	3,427 13
Tools and machines,	9,549 32	704 80	10,254 12
Wrought-iron pipe stock,	5,388 29	. . .	5,388 29
Total, general,	$81,154 03	$3,428 18	$84,582 21
Little river operating supplies:—			
At Borden brook reservoir,		1,078 25	6,616 04
At Provin mountain reservoir,		249 90	
On 42″ pipe line,		37 00	
At West Parish filters,		5,250 89	
Aggregate,	$81,154 03	$10,044 22	$91,198 25

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2.—DETAIL FINANCIAL STATEMENTS.

Receipts.—1912.

The following statements of the collection accounts show the analysis of the *cash* receipts of the department.

BILLS COMMITTED AND CHARGED TO COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Nov. 30, 1911. (*Forward.*)	Committed During 1912.	Totals.
Water rates—annual,	$681 03	$50,311 27	$50,992 30
Water rates—meter,	977 67	283,453 20	284,430 87
Water rates—hose and fountains,	35 00	2,876 00	2,911 00
Water rates—builders,	110 78	2,595 00	2,705 78
Water rates—miscellaneous,*	95 52	*2,279 78	2,375 30
Total water accounts,	$1,900 00	*$341,515 25	$343,415 25
Services and repairs,	$762 39	$20,266 65	$21,029 04
Meters and repairs,	408 34	32,574 47	32,982 81
Fines and penalties,	2 00	274 00	276 00
Off and on,	4 00	110 00	114 00
Miscellaneous sales,**	115 48	**29,564 04	29,679 52
Total sales accounts,	$1,292 21	**$82,789 16	$84,081 37
Totals due, 1912,	$3,192 21	$424,304 41	$427,496 62

*The amount of $2,279.78 charged during 1912 for "*Water rates—miscellaneous*," includes:—

Rates for sundry season uses,	$55 00
" " fish tanks and aquariums,	4 00
" " special and temporary uses (circuses, etc.),	19 60
" " main pipe guaranties (committed to Collector December 1, 1911),	1,045 05
" " emergency supply to West Springfield (as per agreement),	1,000 00
" " street watering, Ludlow,	156 13

**The amount of $29,564.04 charged during 1912 for "*Miscellaneous Sales*," includes:—

Rentals of real estate and loan of tools, etc.,	$1,327 12
Shop sales of material and labor (accommodation, only),	2,395 53

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Sundry sales (not shop) of wood, sand, grass, manure, etc.,	$298 95
Work for street watering department (construction=$39.42; maintenance=$1,437.89),	1,477 31
Work for other city departments,	1,525 37
Miscellaneous work for private parties,	1,455 63
Telephone rentals account West Springfield emergency supply,	73 00
Interest for use of Little river funds,	3,387 50
Transfer from Little river fund,	12,000 00
Hampden railroad location expense reimbursed,	5,168 47
Little river construction labor expense reimbursed,	455 16

AMOUNTS ABATED TO COLLECTOR, AMOUNTS UNCOLLECTED, AND AMOUNTS COLLECTED AND PAID TO CITY TREASURER.

COLLECTION ACCOUNTS.	Abated During 1912.	Uncollected Nov. 30, 1912.	Collected During 1912.
Water rates—annual,*	*$5,937 50	$366 08	$44,688 72
Water rates—meter,	1,587 30	1,295 56	281,548 01
Water rates—hose and fountains,	43 00	80 00	2,788 00
Water rates—builders,	62 90	101 20	2,541 68
Water rates—miscellaneous,**	17 52	95 52	**2,262 26
Total water accounts.	*$7,648 22	$1,988 36	**$333,828 67
Services and repairs,	$25 46	$1,288 65	$19,714 93
Meters and repairs,	181 79	1,871 98	30,929 04
Fines and penalties,	34 00	30 00	212 00
Off and on,	4 00	8 00	102 00
Miscellaneous sales,†	3 26	404 93	†29,271 33
Total sales accounts.	$248 51	$3,603 56	†$80,229 30
Totals, 1912,	$7,896 73	$5,541 92	$414,057 97

* Of the total amount ($5,937.50) abated on account of "*Water rates—annual*," $1,422.60 represents *credits*—or draw-backs—allowed for *vacancies*, in accordance with Rule 12 of the Water Commissioners' rules and regulations, and for changes in rates; and $4,463.90 represents *advance rates* abated because of meters ordered set after bills are committed to the Collector.

** The total amount ($2,262.26) collected for "*Water rates—miscellaneous*" includes $1,000 advance payment by the Town of West Springfield for emergency supply.

† The total amount collected for "*Miscellaneous Sales*" ($29,271.33) includes $3,387.50, interest for use of Little river bond proceeds by City Treasurer, $12,000, transfer from Little river fund, and $5,168.47, reimbursement of Hampden railroad location expense.

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RECAPITULATION.

DIVISIONS.	Water Accounts.	Sales Accounts.	Totals.
Amounts collected, 1912, . . .	$333,828 67	$80,229 30	$414,057 97
Amounts uncollected, 1912, . .	1,938 36	3,603 56	5,541 92
Amounts abated, 1912, . . .	7,648 22	248 51	7,896 73
Amounts charged (including balances forward from previous year), 1912, ...	$343,415 25	$84,081 37	$427,496 62

The differences in the *total collection accounts* of 1911 and 1912 are shown as follows :—

COMPARISON: 1911—1912.

	1911.	1912.	DIFFERENCES. 1912.
Amounts collected, . .	$398,053 10	$414,057 97	+$16,004 87*
Amounts uncollected, .	3,192 21	5,541 92	+ 2,349 71
Amounts abated, . .	4,282 20	7,896 73	+ 3,614 53
Amounts charged, . .	$405,527 51	$427,496 62	+$21,969 11*

*See note under "Amounts Collected" (previous page).

INCOME—VALUE ACCOUNTS.

The amounts entered on the ledger during 1912 are shown as follows :—

USE OF WATER BY THE CITY.

(*Charged and credited as shown below.*)

Per Section 11, Chapter 32, Revised Ordinances, 1904.

Almshouse and annexed buildings, . .		$390 50
Fire department buildings, . . .	$742 95	
Fire department (hydrant services); 1,430 fire hydrants (average during year) at $25 each, ...	35,750 00	
		36,492 95
Amount forward, . . .		$36,883 45

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Amount forward, ...		$36,883 45
Forestry department (buildings), . .		30 00
Highway department (city yards, etc.), .	$57 50	
Highway department (building purposes), .	236 10	
		293 60
Municipal building (old), ...		33 00
Municipal group (heating plant), . .		32 75
Park department (fountains, ponds and hose;—except Forest park), . .	$632 00	
Park department (park uses at Forest park),	198 50	
		830 50
Police department (buildings), . . .		156 75
Public playgrounds, ...		96 40
Pauper department (Wayfarers' lodge), .		57 00
Scavenger department, ...		25 00
School department (buildings), . . .		14,141 65
Sewer department (building purposes), .	$47 60	
Sewer department (flushing); 516 flush gates at $10 each, ...	5,160 00	
		5,207 60
Watering streets department: — 511,479 linear feet of streets sprinkled at 1½ cts. per foot, ...		7,672 18
Watering tanks and drinking fountains, .		670 00
Amount charged, 1912 (*on ledger only*), to "**City of Springfield—Special Account,**" .		$66,129 88
(NOTE: Called a resource account in partial offset to liability accounts of city bonds and appropriations.)		
Water department (buildings), amount charged (*on ledger only*) to "**Expense,**" .		118 00
Total credited, 1912 (*on ledger as gain account*), to "**Water Rates—City Use,**" (forward)		$66,247 88

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Total credited, 1912 (*on ledger as gain account*), to "**Water Rates—City Use**," (forward)		$66,247 88

RENTS OF REAL ESTATE.

(*Charged and credited as shown below.*)

House rental given employees in part payment for services, as follows:—

Employees' tenements, 131 Bridge street (actual amount of rental value charged to sundry accounts during year), . .	$364 04	
Hostler's tenement, 111 Bridge street (charged to "**Teams**"), . . .	156 00	
Keeper's house, Ludlow reservoir (charged to "**Care and Repairs—Ludlow Supply**"), .	180 00	
Caretakers' houses, Little river supply (charged to "**Little River Supply—Operating**"), ...	804 00	
Total credited to "**Rents**,"		1,504 04
Total "INCOME—VALUE ACCOUNTS"—1912, . . .		$67,751 92

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Expenditures.—1912.

The following statements show the distribution of the *net cost* of the principal aggregated maintenance and construction accounts during 1912:—

MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries (superintendence and accounting),		$17,561 77
Inspection (salaries and expenses),		6,848 57
Engineering (undistributable to specific work or new supply),		7,991 68
Teams (balance undistributable),		4,062 77
Automobiles	1912 running expenses, $3,397 41 inventory depreciation, 675 00	4,072 41
Tools and machines (net loss),		1,186 13
Stores and supplies (net loss),		145 61
Printing and binding,		2,133 09
Stationery and postage,		742 13
Furniture and fixtures (net loss),		385 20
Heating apparatus (maintaining),		. . . .
Lighting apparatus (maintaining),		24 87
Heat and light,		1,276 09
Expense—general (undistributable),		643 16
Expense—office building (janitor, supplies, etc.),		1,316 20
Telephone service,		838 37
Off and on (services) (net),		47 10
Refunds,		76 02
Quality expense (flushing mains, etc.),		72 77
Night service (watchmen, etc.),		3,688 85
Meter testing,		566 83
Meter installing (ordinary),		1,756 60
Petty maintenance,		1,509 14
Yard expense,		903 97
Cartage and storage (not distributable),		512 84
Amount forward,		$58,362 17

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Amount forward,				$58,362 17
Care and repairs, Drinking fountains,		$0 61		
" " " Stand pipes,		13 48		
" " " Meters,		3,522 57		
" " " Services (ordinary),		3,353 42*		
" " " Furniture and fixtures,		31 48		
" " " 111 Bridge street,	$41 64			
" " " 121 Bridge street,	460 81			
" " " 131 Bridge street,	107 37			
" " " Stable, Bridge street,	1 83			
		611 65		
" " " Armory street property,		224 82		
" " " Stebbins spring property,		10 81		
" " " Circuit main,		187 06		
" " " Distribution mains, cast-iron,		1,968 12		
" " " Distribution mains, wrought-iron,		428 98		
" " " Ludlow Main No. 1,		123 69		
" " " Ludlow Main No. 2,		21 47		
" " " Gates and valves,		2,457 50		
" " " Hydrants,		3,722 34		
Amounts forward,		$16,678 00		$58,362 17

* "CARE AND REPAIRS—SERVICES" (ordinary) may be analyzed as follows:—

Repairing leaks,	$1,301 74
Putting on pump (small pressure),	12 77
Putting new stops inside curb line,	114 27
Relocating stops, etc.,	33 04
Cutting off abandoned services,	271 22
General care and repairs of stops, valves, etc.,	486 81
Raising and lowering stop boxes and cleaning and repairing same,	195 58
Street and walk repairs,	293 86
Transferring and changing services,	77 26
Improving and maintaining connections,	179 07
Care of pressure regulators,	183 46
Acct. new services (not chargeable to owners),	177 24
Net cost, 1912,	$3,353 42

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Amounts forward, ...		$16,678 00	$58,362 17
Ludlow supply—operating:—			
Chapin pond pumping station, care and repairs, . .	$14 00		
Loon pond pumping station, care and repairs, . .	25 00		
Ludlow Intermittent filter, operating, . . .	1,591 64		
Ludlow reservoir buildings, care and repairs, . .	6 25		
Ludlow supply, care and repairs, ...	2,665 77		
Reforestation, ...	31 50		
Sanitation of supply, . .	293 76		
Taxes, ...	428 20		
Total Ludlow supply, operating, .		5,056 12	
			21,734 12
Total management and repairs (not including Little river operating), .			$80,096 29
Little river supply—operating:—			
Borden brook reservoir, operating, .		$4,590 52	
Diversion dam, care and repairs, . .		78 25	
Filtration (West Parish filters), . .		15,916 22	
General expense, ...		3 20	
Gorge road, care and repairs, . .		49 37	
Pipe line, care and repairs, . . .		1,429 81	
Provin mountain reservoir, operating, .		3,214 26	
Reforestation, ...		35 07	
Sanitation of supply, ...		3,039 77	
Taxes, ...		211 00	
Telephone lines, care and repairs, .		256 48	
West Parish buildings, care and repairs,		195 26	
Total Little river supply, operating,			29,019 21
Total management and repairs, 1912, ...			$109,115 50

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INTEREST ON BONDED DEBT.

On Ludlow Supply Bonds:—

$125,000 at 3½ per cent., 12 months, . .	$4,375 00	
$350,000 at 4 per cent., 12 months, . .	14,000 00	
Total on account of Ludlow supply, ...		$18,375 00

On Little River Supply Bonds:—

$510,000 at 4 per cent., 6 months, . (Twenty $1,000 bonds paid January 1, 1912)	$10,200 00	
$490,000 at 4 per cent., 6 months, . . (Twenty $1,000 bonds paid January 1, 1912)	9,800 00	
$1,458,000 at 3½ per cent., 6 months, . (Forty $1,000 bonds paid January 1, 1912)	25,515 00	
$1,418,000, at 3½ per cent., 6 months, . (Forty $1,000 bonds paid January 1, 1912)	24,815 00	
Total on account of Little river supply, . . .		70,330 00
Total interest paid from water-works receipts of 1912, ...		$88,705 00

DISTRIBUTION MAINS—RENEWAL.

(*See Superintendent's report for detail of location, etc.*)

LOCALITY.	PIPE.	SIZE.	COST.
Dickinson street, ...	199 feet,	6 inch,	$199 82
Maple street, ...	397 "	2 "	194 70
Oak street, ...	1,167 "	8 "	2,672 80
	195 "	10 "	
St. James avenue, ...	133 "	10 "	423 82
	71 "	8 "	
State street, ...	1,462 "	24 "	7,550 63
Total renewal charged, 1912, ...			$11,041 77

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CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSION.

(*See Superintendent's report for detail of location, etc.*)

LOCALITY.	PIPE.	SIZE.	COST.
Albemarle avenue,	1,261 feet,	8 inch,	$1,246 38
Alvord triangle,	233 "	2 "	83 47
Amaron street,	429 "	8 "	568 24
Arlington court,	273 "	2 "	107 62
Atwater terrace,	938 "	8 "	1,100 80
Bartlett avenue,	259 "	6 "	309 52
Biltmore street,	1,097 "	6 "	947 90
Blaine street,	404 "	6 "	306 27
Bridge street (account 1911 work),	. . . "	. . .	218 51
Briggs street, I. O.,	88 "	6 "	76 03
Burr street,	232 "	6 "	167 81
Chicopee road,	494 "	6 "	428 76
Clarendon street,	670 "	6 "	661 64
Concord terrace,	361 "	8 "	492 26
Crane street,	303 "	6 "	277 66
Denton circle,	309 "	6 "	202 64
Dickinson street,	28 "	6 "	7,043 58
	2,130 "	20 "	
Division street,	189 "	6 "	221 81
Dunmoreland avenue,	610 "	8 "	584 62
Duryea street,	442 "	6 "	441 95
East Alvord avenue,	521 "	8 "	681 99
East Court street (account 1911 work),	. . .	. . .	104 02
Eleanor road,	164 "	6 "	107 48
Forest Park avenue,	22 "	6 "	32 03
Franklin street,	148 "	8 "	234 55
Fresno street,	432 "	6 "	430 09
Gillett street,	245 "	6 "	166 06
Grand street,	253 "	6 "	177 04
Greenbrier street,	317 "	6 "	264 74
Highland street,	51 "	1¼ "	5 80
Homestead avenue,	1,160 "	8 "	1,433 08
Maple street, Ludlow,	32 "	1 "	12 82
Margerie street (connection to 24-inch cement-lined main, and setting hydrant on 6-inch),	19 "	6 "	201 89

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LOCALITY.	PIPE.	SIZE.	COST.
Marshall place,	373 feet,	6 inch,	$390 93
Massachusetts avenue,	506 "	8 "	558 43
Massasoit place,	138 "	6 "	143 66
Melrose court,	90 "	6 "	136 88
Moore avenue, I. O.,	112 "	6 "	68 12
Miller street,	304 "	6 "	263 12
Monrovia street,	308 "	8 "	435 87
Mooreland avenue,	233 "	6 "	237 03
Napier street,	625 "	8 "	727 83
Oak Grove avenue,	895 "	8 "	832 60
Oxford street,	248 "	6 "	253 72
Parkside avenue,	384 "	6 "	247 32
Pequot street, I. O.,	207 "	6 "	183 43
Pineywoods avenue,	368 "	6 "	248 74
Ranney street,	935 "	6 "	663 97
Ruskin street,	146 "	6 "	110 28
Rutland street,	295 "	8 "	446 44
State street,	1,629 "	4 "	1,095 00
Stevens street,	638 "	12 "	1,212 36
Sumner avenue,	2,547 "	16 "	6,967 10
Tremont street,	484 "	8 "	528 09
Trillium street,	438 "	6 "	346 16
Van Horn avenue,	518 "	8 "	444 84
Virginia street,	969 "	6 "	822 15
Waltham avenue,	381 "	6 "	284 54
Washington boulevard,	204 "	8 "	251 97
Wentworth avenue,	460 "	6 "	356 08
West street,	654 "	6 "	657 63
	385 "	1¼ "	
West Alvord avenue,	243 "	8 "	239 23
Westford circle,	296 "	6 "	197 98
Wilmont street,	255 "	6 "	167 05
Wilton street,	745 "	6 "	523 31
Worcester street, I. O. (completion 1911 work),	...	...	367 07
Total main pipe extension charged, 1912,			$39,747 99

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3.—MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.—1912.

The following statement shows the number of fines and penalties (of $2 each) due, charged, collected, abated, and uncollected during 1912, the number charged being also the number of premises ordered shut off to enforce payment of overdue accounts:—

DIVISIONS.	For Unpaid Bills.		For Waste Unchecked.	Total Number.
	Due before 1912.	Due in 1912.		
Number uncollected, 1911 (forward),	1	. . .	0	1
Number charged during 1912, . .	0	137	0	137
Total charged collector, 1912, .	1	137	0	138
Number collected during 1912, . .	1	105	0	106
Number abated during 1912, . .	0	17	0	17
Number uncollected, 1912 (forward),	0	15	0	15
Total, as above, ...	1	137	0	138

METERS AND INDICATORS.—1912.

(*For table of same with note, see Appendix V.*)

	Meters.	Indicators.	Total.
Total number in use October 1, 1911, . .	8,286	128	8,414
Total number of meters added to October 1, 1912,	+ 1,573	. . .	
Total number of indicators discontinued to October 1, 1912, ...	. . .	—17	
Net total added to October 1, 1912, . .	. . .	. . .	+ 1,556
Total number in use October 1, 1912, .	9,859	+ 111	9,970

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Total quantity of metered water charged during 1912, *2,104,006,680 gallons.
Average quantity charged per meter or indicator, . .211,034 gallons.
Total amount charged during 1912, ... *$285,880.30
Average amount charged per meter or indicator, . $28.67+
Average rate charged per 1,000 gallons, . . . 13.59— cents.

*Includes municipal uses metered and credited income for year to October 1, 1912, as follows:—86,311,936 gallons, amounting to $2,427.10.

INSPECTION.—1912.

The distribution of work done under this head and time spent by the inspectors on same, during the past year, will be seen by the usual tabulated statement as follows:—

CLASSIFICATION.	Inspectors.						Total Number of Days.
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	
	Days.	Days.	Days.	Days.	Days.	Days.	
Reading and inspecting meters.	59	218	221	239	219	160	1,116
Inspection of hose use—general	0	0	0	9	6	12	27
Semi-annual and monthly inspection (billing)	142	12	0	0	0	0	154
Monthly inspection of vacancies reported	0	0	26	0	0	0	26
Special inspection (leaks, bills and collections)	0	4	0	9	3	0	16
Special inspection (real estate sales),	0	0	36	0	0	3	39
Special inspection of private fire supplies, etc.	0	0	0	7	19	0	26
Special inspection — testing elevators,	0	0	0	0	6	0	6
Office work, etc.	91	60	5	30	41	4	231
Leave of absence,	0	0	6	0	0	0	6
Total (294 working days in the year, counting Saturdays as full days).	294	294	294	294	294	179*	1,649

*Additional inspector (No. 6) began May 1, 1912.

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BILLING CHANGES.—1912.

In connection with certain preparatory changes in the office system,—as planned by the Registrar and not yet fully completed, and under authority granted by your Board,—the following improvements and changes affecting the billing work of the office have been instituted.

A complete addressing equipment has been purchased and installed (including the machine for stamping the addressing-plates) and, beginning with the April 1st commitment, the same has been successfully used in printing the names, premises, and reference matter on all water bills, leaving for pen-work only the ratings or meter readings and amounts.

Besides the saving in time of billing, other advantages will be derived in the further use of this equipment.

For the purpose of relieving the increasing congestion of work due to rendering *all* bills for metered water at the same quarterly dates, and in order to distribute such work as equally as possible throughout the year, the arrangement outlined below has been adopted, to take effect January 1, 1913:—

With the early completion of metering all supplies, there will be approximately 12,000 meter accounts, besides the yearly increase, and it is planned to bill about one-third of these each month for the preceding quarterly period, the same accounts, however, to be billed three months apart. For this purpose, and in accordance with a thorough and careful study and re-routing, the entire city has been divided into *three billing districts*, to be known as "A," "B," and "C," and all bills for metered water will hereafter be rendered as follows:—

District "A," January 1, April 1, July 1, and October 1.

District "B," February 1, May 1, August 1, and November 1.

District "C," March 1, June 1, September 1, and December 1.

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STATISTICS.—1912.

In the appendices to this report will be found the usual table of meters and indicators in use October 1, 1912, the comparative statement showing the classification of consumers supplied at date, together with a summary of statistics for the year, as recommended by the New England Water Works Association.

Respectfully submitted,

A. R. HATHAWAY,

Water Registrar.

SPRINGFIELD, MASS., December 30, 1912.

BOARD OF WATER COMMISSIONERS, December 30, 1912.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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SUPERINTENDENT'S REPORT.

To the Board of Water Commissioners of the City of Springfield, Mass.

GENTLEMEN:—I herewith submit the thirty-ninth annual report of the Superintendent for the year ending November 30, 1912.

The amount of pipe laid, the number of gates and fire hydrants set, the amount of pipe discontinued, and the number of gate and fire hydrants taken out, are shown as follows:—

MAIN PIPE, GATES AND HYDRANTS ADDED—1912.

NUMBER.	Extensions.	Renewals.	Private.	TOTALS.
Feet of pipe laid, 1912,	31,159	6,776	1,135	39,070
Added,—account of previous years,	61	0	930	991
Total pipe added, 1912,	31,220	6,776	2,065	40,061
Gates set, 1912,	298	33	32	363
Added,—account of previous years,	14	0	2	16
Total gates added, 1912,	312	33	34	379
Fire hydrants set, 1912,	78	32	1	111
Added,—account of previous years,	0	0	0	0
Total fire hydrants added, 1912,	78	32	1	111

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MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED—1912.

NUMBER.	TOTALS.
Feet of Pipe, ...	7,105
Gates, ...	37
Fire Hydrants, ...	38

There are now in use 195.11 miles of supply and distribution mains, a net addition of 6.24 miles the past season.

RAINFALL.

The following table shows the amount of rain and melted snow in inches, as registered at Ludlow reservoir, the U. S. Armory, and the City Engineer's office in this city, Provin Mountain, West Parish filters and Bordern Brook reservoir, during the thirteen months ending December 31, 1912:—

MONTHS.	Ludlow Reservoir.	U. S. Armory.	City Engineer's Office.	Provin Mountain.	West Parish Filters.	Borden Brook Reservoir.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Dec., 1911,	3.44	2.81	2.33	3.17	3.62	3.44
Jan., 1912,	1.55	1.22	0.95	1.60	2.30	2.56
Feb., 1912,	1.46	2.11	2.80	3.16	2.99	3.04
Mar., 1912,	5.75	4.53	5.48	6.43	5.69	5.88
Apr., 1912,	4.68	4.78	4.59	5.30	5.63	5.81
May, 1912,	5.51	3.87	4.40	4.99	4.48	4.91
June, 1912,	0.49	0.36	0.39	0.51	0.71	0.54
July, 1912,	2.43	1.83	1.89	2.41	2.71	2.55
Aug., 1912,	3.15	2.32	3.76	4.14	4.26	3.83
Sept., 1912,	1.62	2.14	2.33	3.66	3.37	3.79
Oct., 1912,	1.47	2.02	2.56	3.33	5.57	5.57
Nov., 1912,	3.71	3.06	3.78	3.94	4.42	4.60
Dec., 1912,	3.85	2.93	3.51	4.12	4.43	4.81
Totals(13 mos.),	39.11	33.98	38.77	46.76	50.18	51.33
Mean, .	3.01	2.61	2.98	3.60	3.86	3.95

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CONSTRUCTION AND MAINTENANCE.

In compliance with orders from your honorable board, main pipe has been laid in the following named streets during the year of 1912, the extensions mostly made on guaranteed revenue from owners and abutters, as usual, viz.:—

EXTENSIONS.

Albemarle avenue	8" C. I., southerly from Wilbraham road;
Alvord triangle	2" W. I., East Alvord avenue to West Alvord avenue;
Arlington court	2" W. I., westerly from Main street;
Atwater terrace	8" C. I., northerly from Springfield street;
Bartlett avenue	6" C. I., Carew street to Massasoit place;
Bay street	8" C. I., at St. James avenue;
Beaumont street	6" C. I., at Dickinson street;
Biltmore street	6" C. I., Dickinson street to Trafton road;
Blaine street	6" C. I., White street to Brunswick avenue;
Briggs street, I. O	6" C. I., easterly from Moore avenue;
Burlington street	6" C. I., at Dickinson street;
Burr street	6" C. I., Mapledell street to Oak Grove avenue;
Charter avenue	6" C. I., at Oak street;
Chicopee road	6" C. I., southerly from Carew street;
Clarendon street	6" C. I., extension to Dartmouth terrace;
Concord terrace	8" C. I., extension to State street;
Crane street	6" C. I., northerly from Franklin street;
Denton circle	6" C. I., easterly from Liberty street;
Dickinson street	20" C. I., Oakland street to Sumner avenue;
Division street	6" C. I., westerly from Plainfield street;
Dunmoreland avenue	8" C. I., southerly from Wilbraham road;
Duryea street	6" C. I., southerly from Page boulevard;
Dymon street	6" C. I., at Oak street;
East Alvord avenue	8" C. I., northerly from Sumner avenue;
Eleanor road	6" C. I., extension of former 6";
Forest Park avenue	6" C. I., completion to Pineywoods avenue;
Fresno street	6" C. I., southerly from Page boulevard;
Gillett street	6" C. I., easterly from Crane street;
Grand street	6" C. I., extension to Malden street;
Greenbrier street	6" C. I., Blaine street to Trillium;
Herman street	6" C. I., at Sumner avenue;
Highland street	1¼" W. I., westerly from 6" main;
Homestead avenue	8" C. I., southerly from Berkshire avenue;
Kenwood park	6" C. I., at Dickinson street;
Maple street, Ludlow	1" W. I., extension of former 1";
Margerie street	6" C. I., at State street;
Marshall place	6" C. I., extension to Melrose court;
Massachusetts avenue	8" C. I., extension of former 8";
Massasoit place	6" C. I., completion to Bartlett avenue;
Melrose court	6" C. I., completion to Eastern avenue;
Miller street	6" C. I., extension of former 6";
Monrovia street	8" C. I., southerly from Page boulevard;
Montrose street	8" C. I., at State street;
Moore avenue, I. O	6" C. I., extension of former 6";
Mooreland avenue	6" C. I., completion to Van Horn avenue;
Napier street	8" C. I., easterly from Armory street;
Oak Grove avenue	8" C. I., completion;
Oxford street	6" C. I., completion to Riverview terrace;
Parkside avenue	6" C. I., completion to Van Horn avenue;
Pequot street, I. O	6" C. I., westerly from Lyons street;
Pineywoods avenue	6" C. I., Washington road to Forest Park avenue and completion to Washington boulevard;
Ranney street	6" C. I., Kensington avenue to Johnson street, and completion to Alderman;
Ruskin street	6" C. I., southerly from Eleanor road;
Rutland street	8" C. I., completion to State street;

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Sewall street, Ludlow.....1¼" W. I., at North street;
State street.....4" C. I., N. Y., N. H. & H. R. R. to College street;
St. James avenue.....10" C. I., northerly from State street;
Stevens street.....12" C. I., southerly from Page boulevard;
Sumner avenue.....16" C. I., Dickinson street to East Alvord avenue;
Tremont street.....8" C. I., easterly from Second street;
Trillium street.....6" C. I., White street to Greenbrier;
Van Horn avenue.....8" C. I., Armory street to Parkside avenue;
Virginia street.....6" C. I., Dickinson street to Trafton road;
Waltham avenue.....6" C. I., completion to Wilbraham avenue;
Washington boulevard.....8" C. I., easterly from Pineywoods avenue;
Wentworth avenue.....6" C. I., westerly from Liberty street;
West street.....6" C. I., and 1¼" W. I., extension westerly;
West Alvord avenue.....8" C. I., northerly from East Alvord avenue;
Westford circle.....6" C. I., Westford avenue to Massachusetts avenue;
Wilmont street.....6" C. I., extension to Ranney street;
Wilton street.....6" C. I., southerly from Boston road.

RENEWALS.

Amaron street.....8" C. I., State street to Wilbraham road.
Andrew street.....6" C. I., at State street;
Charter avenue.....6" C. I., at Oak street;
Clarendon street.....6" C. I., northerly from Worthington street;
Concord terrace.....8" C. I., northerly from Wilbraham road;
Dickinson street.....6" C. I., Oakland street to Mason place;
Franklin street.....8" C. I., easterly from Webster street;
Harris road, Ludlow.....6" C. I., Mero street to Maple street;
Hayden avenue.....6" C. I., at State street;
Lillian street.....6" C. I., at Oak street;
Ludlow Main No. 1 (North street, Ludlow).....24" C. I., at Hampden railroad;
Maple street.....2" W. I., Pine street to George street;
Mapledell street.....8" C. I., at State street;
Marshall place.....6" C. I., easterly from Walnut street;
Oak street.....8" C. I., State street to Tyler street;
Oak street.....10" C. I., Tyler street to Walnut street;
Oak Grove avenue.....8" C. I., at State street and northerly from Oak Grove Park roadway;
Orleans court.....2" W. I., at Oak street;
Quincy street.....8" C. I., at Oak street;
Rutland street.....8" C. I., northerly from Wilbraham road;
State street.....24" C. I., N. Y., N. H. & H. R. R. to Oak Grove avenue;
Tyler street.....10" and 6" C. I., at Oak street;
Union street.....10" and 8" C. I., at Oak street;
White street.....12" C. I., at Sumner avenue.

In the foregoing work over 31,000 feet of main pipe were laid at an expense of $39,747.99, which includes ordinary extensions, with gates, hydrants and connections; also nearly 7,000 feet of main pipe replacing old, at a cost of $11,041.77 which also includes gates, hydrants and connections.

The different streets in which the above work has been done, with the cost of each, will appear in tables in the Registrar's report. The pipe work and changes during the year are shown separately in tables in Appendix VIII to this report.

The work of replacing cement-lined mains which still remain in our system has not been pushed this year on account

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of lack of funds, the ordinary extensions requiring the use of all the money available, and even some of these have been held over till next year. Only in those streets where permanent paving has been placed, have cement-lined mains been replaced, namely Oak street from State to Walnut, State street from the N. E. R. R. tracks to Oak Grove avenue, and St. James avenue from State street to Bay.

There are still remaining several miles of these mains which ought to be replaced at the earliest opportunity.

Included in the above replacements, but not included in their cost, is a section of North street, Ludlow, where the new Hampden railroad cut our No. 1 line from the Ludlow reservoir and the location of the street was changed thereby, necessitating the replacing of about 1,000 feet of the 24" cement-lined main with the same amount of 24" cast-iron pipe in the new street; this was done at the expense of the Hampden railroad company and its cost was $5,168.47.

One hundred and ten new hydrants have been installed on lines of new extensions and replacements, of which number 78 are additional and 32 renewals.

Three hundred and sixty-three new gates have been set, of which number 330 are additional and 33 renewals.

Eight hundred and eighty-three new taps for service pipes have been made, including 348 renewals, making a total of 535 taps added; 113 were abandoned and cut off, leaving a net total increase of 422 for the year. There are now connected to the system 13,407.

In our maintenance work, the repairing of leaks is growing to such an extent that it requires a gang of men nearly all the time to care for them, and some days every gang available is employed at such work. There have been 137 leaks in service pipes, 21 of which probably were caused by freezing. The total cost of repairing the above leaks was $1,301.74, an average of $9.50 per leak.

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An expense of $2,916.57 was incurred in the months of January, February, and March for thawing service pipes which, on account of the severe cold weather and lack of snow to protect the earth, were frozen in great numbers, the frost penetrating the ground to the depth of six feet in places, and averaging a depth of four feet in nearly every street in the city. As a consequence nearly 500 service pipes were frozen, causing much inconvenience and hardship to many families, and necessitating hard work on the part of those in charge to get them thawed out and into commission once more.

As a rule the water takers were disposed not to be critical, realizing that it was a case of extraordinary emergency, and that we were doing all that could be done to help them out of their trouble. At its worst period, there were from fifty to one hundred notices per day, and as it was manifestly impossible to keep the pipes thawed out as fast as they were reported, the Street Department was called upon and furnished several watering carts by means of which the families were supplied with water until the situation was under control and we were able to respond to the calls as fast as they were received. The trouble lasted for about four weeks, and during that period there was little rest for the men, and little peace of mind for the superintendent, his assistants, and office force, and it is most sincerely to be hoped that such an epidemic will never visit our city again. A few of the worst of the cases above mentioned have been remedied this year by lowering the pipes beyond the reach of frost, but many of them will freeze again if another such long period of cold weather visits us. It would cost very little more to put these pipes beyond the reach of frost than it did to thaw them out, and such an investment is recommended as a good one, both financially and for sanitary reasons.

A six-inch main in Oakland street near the "Water Shops," so-called, was the only cast-iron main to freeze and it was

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found to be only two feet under ground, the street having been cut down unknown to the Water Department after the pipe was laid. The freezing caused about 50 feet of this pipe to burst, necessitating an outlay to replace it of $153.34; and during the summer about 400 feet of it were lowered at a cost of $184.27. A few street mains of 2″ and 1½″ wrought-iron pipe also were frozen, and the cost of thawing them was $84.44.

I wish here to acknowledge the great assistance rendered, during this strenuous period, by the United Electric Light Company, who, at my request, and at no little inconvenience to themselves, furnished an electric outfit and men to handle it, by means of which our troubles were ended in a much shorter time than would have otherwise been the case. From one third to one half of the whole number of frozen pipes was thawed by their plant, thirty to forty being no unusual day's work.

Acknowledgment is also due the Springfield Automobile Company, who rendered much assistance by means of an independent electric plant in one of their "Couple Gear" trucks, with which they thawed a number of long and crooked pipes which could not be reached by the Electric Light Company's lines, and which would have been impossible by the old way of hot water and force pump.

There have been 73 leaks in main pipes during the year, an average of 0.37+ per mile of main pipe in use. The following table shows the kinds and sizes of pipe in which the leaks occurred:—

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KIND AND SIZE OF PIPE.	1"	1½"	1¼"	2"	2½"	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"	36"	42"	TOTALS.
Steel,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Cast-iron,	....	....	....	....	1	....	7	16	2	3	5	3	3	....	2	4	....	46
Cement-lined,	....	....	....	....	....	....	1	....	1	....	....	....	....	4	....	....	....	6
Wrought-iron,	1	7	2	6	....	2	2	....	....	....	....	....	....	....	....	....	....	20
Total leaks,	1	7	2	6	1	2	10	16	3	3	5	3	3	4	2	4	1	73

Sixteen of these leaks were in hydrant connections and 7 were cracked pipes. Of these latter, the worst was a 16″ pipe near the junction of Worcester and Fiberloid streets in Indian Orchard, which opened at about one o'clock December eighteenth, A. M. The call was received at 1.35 o'clock and in thirty-five minutes from that time the water was shut off and the flood ceased, having lasted about one and one quarter hours, but it had done damage enough in even that comparatively short time, for it washed out completely across the street, undermined the car tracks so that passengers had to be transferred, and the street was impassable for teams nearly the whole day. Three days were required in which to complete the repairs, and in the vicinity of 1,200 cubic yards of sand-filling were used, besides rebuilding gutters, macadamizing the street, rebuilding catch basins and connections, cleaning tracks of the Athol Branch railroad, repairing Street railway tracks, etc., etc., the total cost of the whole job being $676.79. On examination the break proved to be a crack in a 16″ pipe, which extended practically its whole length. The pipe was one of a shipment of "Class E" so-called, and the heaviest used by the department, and no reason for its failure has as yet been discovered. It had been in commission about two weeks. Samples of the pipe were sent to our inspector, William R. Conard, Burlington, N. J., and his report on them

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does not indicate any abnormal conditions in the metal or casting.

The total cost of repairing the 73 leaks was $2,098.12, in which is included the amount for the large break above mentioned, averaging $28.74 per leak, or $19.74 per leak for the other 72.

Hydrants have had their regular inspection and repairs, including the emergency inspections in cold weather, when they are examined regularly, from three times a week to once every day during extreme weather, to be sure they are in proper condition for use.

Our regular system of gate inspection is proving its value, as every gate box is kept raised to the surface of the street; also if a gate is found shut or out of order it is made right at once, and thus they are all kept in working condition at all times.

The real estate on Bridge street is in good condition and such repairs as have been necessary are noted in detail in the Registrar's report.

METER WORK.

In following out the orders of your Board that meters shall be set on every unmetered service in the city, about 3,000 meters have been set to the first of December and about 1,000 old services remain to be metered; the work has proceeded with very little friction, and in nearly all cases the water takers seem to feel that it is the best way. There is occasionally one who is sure the meter is not registering correctly, but in every instance so far, leaky fixtures or some abnormal use of water has been discovered, upon correction of which the bills have materially lessened, and all is serene once more. This work should be completed by July of next year.

Besides the above new meters, about 2,400 old ones have been repaired, making approximately 5,400 meters handled during the year.

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INVENTORY.

The appraisal of stock, tools, supplies, fixtures, etc., in the Superintendent's division, on hand November 30, 1912, amounted to $81,154.03, distributed to sundry accounts as shown in the Registrar's report.

STATISTICS.

In the appendix to this report will be found the usual tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates and hydrants taken out, also location of fountains, watering tanks, fire hydrants, standpipes, and main and distribution pipes.

Respectfully submitted,

ALFRED E. MARTIN,

Superintendent.

SPRINGFIELD, MASS., December 30, 1912.

BOARD OF WATER COMMISSIONERS, December 30, 1912.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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CHIEF ENGINEER'S REPORT.

DECEMBER 30, 1912.

Board of Water Commissioners, Springfield, Mass.

GENTLEMEN:—The operation of that portion of the water supply outside of the city limits, which includes the protection, impounding and purifying of the water to be used by the city, has been without any events worthy of special note. A third dry year has given the storage reservoirs an additional test and the department greater confidence that the system will meet any emergency due to weather conditions. On January 1, 1912, the Borden Brook reservoir held in storage 2377 million gallons, out of the total possible capacity of 2500 million. This latter amount was attained when the reservoir overflowed February 27 and it remained full until June 24, when use by the city made it necessary to draw from storage. This is about a week earlier than usual. The lowest amount held in reserve was on October 23, when 1730 million gallons, or 69% of the total storage, remained unused. From this time there has been a steady gain so that December will close with the reservoir practically refilled. Many of our neighboring cities found it necessary to restrict the uses of water, but no restrictions were imposed or considered in this city on account of a possible lack of supply at any time.

The proposition of the Berkshire Street Railway Company to build a through trolley line across the northern portion of the Little River watershed was opposed for sanitary reasons, and when the grant was finally approved by the State Railroad Commissioners, a condition was imposed by them which made complete sanitary supervision possible. A copy of the order of the Railroad Commissioners and the rules imposed

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by the State Board of Health under this order may be found in Appendices XIX and XX. Before the construction work started, representatives of the department had been conferred with and all the camps and work were subjected to careful oversight and regulation, and all the work on this line has been carried forward under the direction and supervision of sanitary inspectors. This work will continue during the coming year and it will be necessary to continue the inspection as long as the work is in progress at any point.

On August 13, 1912, two tracts of land were taken in North Blandford which insure the city in the development of additional storage at any time, and also preclude a location for the electric railway which would interfere with any future development of the supply. Surveys of these storage sites have been made and information necessary for their development is being obtained.

SUBURBAN SUPPLIES.

Before the close of 1912 the village of Feeding Hills, in Agawam, will be using water from the Little River sources. An emergency connection is also being built by which it will be possible for the town of Longmeadow to secure at a moment's notice sufficient water for all needs including any fire demands, by opening a gate on the border of their town. The emergency connection of this same nature which was installed two years ago for the town of West Springfield was opened for the only time during the year late in December, due to trouble with the pump depended upon to supply the town with water from their own source. Arrangements have also been made for measurements by Venturi meter of the Ludlow supply to the village of Ludlow, which will be installed in the early part of next year. Conferences have been held with selectmen and commissioners in regard to other systems outside of the

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city limits, but no other contracts are in force. It can be seen from this brief statement that outlying towns depend upon the Springfield supplies to a large extent, and the responsibility of having water for a community, much larger than the municipality alone, rests on your Board and the organization supported by you.

The engineers of the National Board of Fire Underwriters have just completed a study of all of the fire fighting facilities of the city, and it is gratifying to learn that they have secured better results, as indicated by their test for large fire flows under high sustained pressure, than in other American cities, and their report on hydrant and gate spacing, as well as the general arrangement of our distribution system, is commendatory. This result is due to the heavy expenditures for large mains in every portion of the city, following the study of conditions; and the benefit will come in reduced insurance rates and not in financial return to the department, which is complete justification for the large amounts spent for these improvements. The few weak sections can be improved without very large financial outlay.

USE OF WATER.

The daily use of water in the city is given in detail for every day in the year in Appendix XXI. Water used by other towns from which we have record is given in Appendix XXII. No day this year has exceeded or equaled the use in the city, July 3, 1911, nor has the rate of use given a year ago been duplicated. The minimum day's use this year is a little lower. The following information is given as a summary of the more interesting of the records and is based on the figures for the city of Springfield alone, and does not include water used by any suburban town:—

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Total amount of water used in city of Springfield during 1912,	gallons,	3,901,900,000
Average use per day (366 days),	"	10,661,000
Per capita daily, basis 95,080 population,	"	112
Maximum use per day, July 8th,	"	14,610,00
Minimum use, Thanksgiving day, Nov. 28th,	"	6,400,000

LITTLE RIVER AND LUDLOW SUPPLIES.

The Ludlow supply has been kept in readiness and every condition of sanitation and precaution necessary for a complete supply to the city has been exercised at all times. The filters were operated during the season when the Ludlow reservoir carried large quantities of anabaena; as was the case some years ago when the supply was needed for the city of Springfield. This supply was used only by the village of Ludlow and a portion of the town of Wilbraham during this last year.

On the Little River system no material changes have been made. The grounds about Borden Brook and Provin Mountain reservoirs and the West Parish filters have been kept in good condition and have attracted large numbers of visitors. In the operation of the filters there has been a reduction in expense due to the greater familiarity of the men in the operation and more thorough understanding of the system. The complete records of chemical and bacteriological analyses which are taken daily in the laboratory at the filters are given in full in Appendix XXIII. The analyses furnished by the State Board of Health of the water from all parts of the supply are given in Appendix XXIV. To give a brief summary of these analyses, it may be said that they show that by filtration a water of excellent quality is uniformly produced, free from large counts of bacteria or appreciable amounts of organic matter in any form at any time, and never of a high color, and is of

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excellent sanitary quality. An accurate study has been made of the various costs in connection with the filtration of the supply and these are given in detail in Appendix XXVI.

During the winter the intakes are to be removed and the pumps dismantled at the various pond supplies. This marks the end of the "emergency" supplies which were made necessary on account of the quality of the Ludlow water and marks the passing of one of the features of expense necessary in the operation of a supply which was not at all times ready for use.

The Hampden Railroad, now under construction, crosses the water mains at five points. At one point it was necessary to relay one thousand feet of cement-lined pipe. This was replaced throughout this length with 24-inch cast-iron pipes. At the point where the railroad crosses the 30-inch cast-iron Ludlow main, a tunnel was built, and the pipe thereby made accessible. At all of the crossings the pipes were protected to the satisfaction of the department, and the expense of these changes was borne by the Hampden Railroad Company.

The settlement of the Crane Bros. and Foster Machine Company water diversion damage cases, together with a number of minor cases of pipe line and other damages, has been a satisfactory step towards the ultimate completion of the Little River supply. With the rapid growth of the city, and extension of the area supplied with water, development involving other takings and purchases of land will undoubtedly be advisable. A few of the original cases remain unsettled and it is hoped that these can be settled soon.

A reward has been offered by your Board for a report of any case of typhoid or other intestinal disease on the Little River system. This is in line with the reward on the Ludlow system and is very helpful as it enables our representatives to arrange for careful disinfection before any pollution reaches the stream.

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Your Board has taken at all times a very helpful interest in the duties and details of problems that have arisen in the department, and I cannot express too much the appreciation of this interest. The assistants in the engineering department, the caretakers and all others in the charge of their particular departments, have worked faithfully towards the one end,—that of making the department efficient and the securing of water of best quality, economically.

Respectfully submitted,

ELBERT E. LOCHRIDGE,

Chief Engineer.

BOARD OF WATER COMMISSIONERS, December 30, 1912.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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APPENDIX.

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APPENDIX I.

LEGISLATIVE ACT FOR SUPPLYING WATER BY CITY OF SPRINGFIELD TO CITIES AND TOWNS IN HAMPDEN COUNTY.

(Amending Chapter 317 of the Acts of 1906 for Little River Supply.)

[CHAPTER 607.]

AN ACT RELATIVE TO THE WATER WORKS SYSTEM OF THE CITY OF SPRINGFIELD.

Be it enacted, etc., as follows:—

SECTION 1. Chapter three hundred and seventeen of the acts of the year nineteen hundred and six is hereby amended by striking out section twelve and inserting in place thereof the following:—*Section 12.* The city of Springfield, acting as aforesaid, may supply water to the cities and towns in the county of Hampden, except the city of Holyoke, upon such terms as may be agreed upon by the city of Springfield and each city and town so supplied. The city of Springfield, with the consent of the board or body having charge of the water system or plant in any such city or town, may furnish water both to persons and corporations in the cities and towns so supplied, and also to persons and corporations in cities and towns not so supplied. The city of Springfield may acquire the water works system or plant in any city or town to which water is supplied under the provisions of this act, upon such terms as may be agreed upon by the city of Springfield and the owner or owners of such system or plant, with the consent of such city or town; and the system or plant so acquired may become a part of the water works system of the city of Springfield.

SECTION 2. The city of Springfield may generate power for its own use in the development of its water system and may generate power for, and transmit power to, any persons or corporations whose waters, power rights or property have been or may be affected by the taking of the waters of Westfield Little river under the authority of said chapter three hundred and seventeen, but the said city shall not generate electricity for itself or for any person or corporation for any other purpose than that which is specified herein; and the city of Springfield may take, or acquire by purchase or otherwise, and hold any lands, rights of way, easements and other property which said board may deem necessary for carrying out any of the purposes mentioned in this section.

SECTION 3. All buildings, machinery and other property hereafter

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acquired, constructed, installed, used and appropriated for the generation of electricity for sale under the provisions of the said chapter three hundred and seventeen and of this act may be valued for the purpose of taxation at the fair cash value thereof, and the tax thereon may be collected, by the cities or towns within which the same are located. But nothing herein contained shall be construed as authorizing the taxation of dams, reservoirs and other structures used and appropriated for any other purpose than the generating of electricity for sale.

SECTION 4. This act shall take effect upon its passage. [*Approved May 17, 1912.*]

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APPENDIX II.

AGREEMENTS BETWEEN CITY OF SPRINGFIELD AND BROADWAY REALTY TRUST FOR SALE OF WATER DEPARTMENT REAL ESTATE ON BRIDGE STREET AND LOCATION OF BROADWAY.

(ORIGINAL AGREEMENT OF JULY 11, 1912.)

This *Agreement* by and between the City of Springfield, a municipal corporation located in Hampden County, Massachusetts, and Albert P. Hare and George A. Whitney, both of said Springfield, Trustees, and Daniel E. Burbank, 2d, of said Springfield, Assistant Treasurer of the Broadway Realty Trust under a Deed of Trust, recorded in Book 801, Page 532, of the Hampden County Registry of Deeds, *Witnesseth:*

(1) The City of Springfield agrees to convey to said Trustees the following described real estate: Beginning at the northeasterly corner of said property, bounded by the southerly side of Bridge street and the westerly side of land of one Burnham; thence southerly about one hundred and fifty-eight (158) feet, more or less, along the land of said Burnham; thence easterly about eleven (11) feet, more or less, to land now or formerly of Theodore F. Dwight; thence southerly about seventy-three (73) feet, more or less, to the northerly line of Wight avenue; thence westerly along Wight avenue about eighty-eight (88) feet, more or less, to a point at the junction of the westerly line of Broadway and the northerly line of Wight avenue; thence northerly fifty (50) feet, along the westerly line of Broadway; thence westerly about forty-three (43) feet, more or less, to land now or formerly of George E. Mansfield, Jr., said last named point being fifty (50) feet from the northerly line of Wight avenue along land of said Mansfield; thence northerly about twenty-two (22) feet, more or less, along land of said Mansfield; thence westerly about seventeen (17) feet, more or less, along land of said Mansfield; thence northerly about one hundred and fifty-eight (158) feet, more or less, along land of Phelps Realty Associates to the southerly line of Bridge street; thence easterly about one hundred and thirty-seven (137) feet, more or less, to the point of beginning; being part of the premises now occupied by the Water Department of said city. Said conveyance to be made on or before two years from date hereof in accordance with the provisions herein contained.

(2) Said Trustees agree to purchase said real estate and to pay said

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City as purchase price therefor the sum of one hundred and twenty-five thousand ($125,000.00) dollars, of which amount sixty-two hundred and fifty ($6,250.00) dollars is paid at this date and the remaining one hundred and eighteen thousand seven hundred and fifty ($118,750.00) dollars to be paid at the time of the delivery of the deed as herein provided.

(3) Deed conveying said real estate to said Trustees shall be made and delivered by said City after one year and on or before two years from date. Said City shall give to said Trustees, or any one of them, ninety days' notice prior to the delivery of said deed, except that said deed shall be in order for delivery without notice at the expiration of two years from date. Said premises, except as herein otherwise provided, may be occupied by the Water Department of said City until the delivery of said deed.

(4) During the occupancy of said premises hereunder a strip of land twelve feet wide, lying within the location of Broadway (a proposed street) and extending from Bridge street to Wight avenue, shall be after six* months from date open for use as a passageway from Bridge street to Wight avenue. Said Trustees shall save said City harmless from all loss or damage resulting from the opening and use of said passageway. Said City is to maintain buildings on said premises in as good condition as the same now are, reasonable use excepted, save as same may be affected by said passageway. Said passageway is to be located by the Water Commissioners of said City.

(5) Said Trustees agree as part of the consideration hereof to convey or cause to be conveyed to the City of Springfield, simultaneously with the conveyance of the premises herein described to said Trustees, the land, other than existing street locations, lying in a strip sixty (60) feet wide, extending from Worthington street on the north to Vernon street on the south, such strip of land being shown upon plan hereto annexed. The conveyances provided for under the provisions of this paragraph are to be made upon condition that said City shall construct a street substantially on locations shown upon said plan, such proposed street being known as Broadway. All of the land affected by this instrument is located in said City of Springfield. No assessment for betterments shall be levied by said City against the donors of land for said street.

(6) This instrument is to bind the successors and assigns of the parties hereto.

In Witness Whereof said Trustees and said Assistant Treasurer have hereunto set their hands and seals and the Board of Water Commissioners

*Changed to "twelve" months, by agreement of December 6, 1912,—see following page.

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of said City of Springfield, hereunto duly authorized, have executed this instrument on behalf of said City and affixed its seal hereto this eleventh day of July, 1912.

[SEAL]

(Signed) ALBERT P. HARE
GEORGE A. WHITNEY } *Trustees of the Broadway Realty Trust.*

(Signed) DANIEL E. BURBANK, 2d,
Assistant Treasurer Broadway Realty Trust.

CITY OF SPRINGFIELD

BY [SEAL]

(Signed) FRED R. BROWN,
Chairman,
EDWARD H. LATHROP,
Mayor,
H. C. PUFFER. } *Board of Water Commissioners.*

Approved:

(Signed) JAMES L. DOHERTY,
City Solicitor.

(AGREEMENT OF DECEMBER 6, 1912, MODIFYING AGREEMENT OF JULY 11, 1912.)

This *Agreement* by and between the City of Springfield, a municipal corporation located in Hampden County, Massachusetts, and Herbert Myrick, Albert P. Hare and George A. Whitney, all of said Springfield, Trustees of the Broadway Realty Trust under a Deed of Trust recorded in Book 801, Page 532, of the Hampden County Registry of Deeds, *Witnesseth:*

Whereas, the said City of Springfield and the said Trustees of the Broadway Realty Trust entered into an agreement dated July eleventh, nineteen hundred and twelve, relative to the sale and purchase of certain property of the City of Springfield, and whereas, it is desired to modify the said agreement in certain particulars,

Now, Therefore, in consideration of One dollar and other valuable

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considerations each to the other in hand paid, the said City of Springfield and the said Trustees of the Broadway Realty Trust mutually covenant and agree as follows:

1.—Section four of the said agreement is hereby modified and changed by inserting in place of the word "six" in line three of said section, the word "twelve," so that said section, as modified and changed, shall read as follows:

> "(4) During the occupancy of said premises hereunder a strip of land twelve feet wide, lying within the location of Broadway (a proposed street) and extending from Bridge street to Wight avenue, shall be after twelve months from date open for use as a passageway from Bridge street to Wight avenue. Said Trustees shall save said City harmless from all loss or damage resulting from the opening and use of said passageway. Said City is to maintain buildings on said premises in as good condition as the same now are, reasonable use excepted, save as same may be affected by said passageway. Said passageway is to be located by the Water Commissioners of said City."

This instrument is to bind the successors and assigns of the parties hereto.

In Witness Whereof said Trustees of the said Broadway Realty Trust have hereunto set their hands and seals, and the Board of Water Commissioners of said City of Springfield, hereunto duly authorized, have executed this instrument on behalf of said City and affixed its seal hereto this sixth day of December, 1912.

[SEAL]

(Signed) HERBERT MYRICK,
GEORGE A. WHITNEY,
ALBERT P. HARE,
Trustees of the Broadway Realty Trust.

CITY OF SPRINGFIELD

By [SEAL]

(Signed) FRED R. BROWN, *Chairman,*
H. C. PUFFER,
EDWARD H. LATHROP, *Mayor.*
Board of Water Commissioners.

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Commonwealth of Massachusetts,
County of Hampden.

Then personally appeared before me the above named Herbert Myrick and acknowledged the foregoing instrument to be his free act and deed, this seventh day of December, 1912.

[SEAL]

(Signed) J. FRANK DRAKE,
Notary Public.

Approved:

(Signed) JAMES L. DOHERTY,
City Solicitor.

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APPENDIX III.

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(On annual basis of twelve months.)

Year.	Water Rates Charged. (*During the year, only.*)		Water Rates Collected. (*Including balances forward.*)	
	Totals.	Difference.	Totals.	Difference.
1885	$93,421 60	. . . .	$90,848 05	. . . . .
1886	100,537 77	+$7,116 17	97,298 78	+$6,450 73
1887	108,140 94	+ 7,603 17	105,451 52	+ 8,152 74
1888	115,146 35	+ 7,005 41	112,581 21	+ 7,129 69
1889	126,220 72	+11,074 37	122,541 52	+ 9,960 31
1890*	133,553 28	+ 7,332 56	129,913 27	+ 7,371 75
1891	140,604 85	+ 7,051 57	136,985 11	+ 7,071 84
1892	150,515 67	+ 9,910 82	146,349 09	+ 9,363 98
1893	164,894 65	+14,378 98	160,936 78	+14,587 69
1894	167,376 11	+ 2,481 46	162,769 71	+ 1,832 93
1895	182,357 49	+14,981 38	178,421 15	+15,651 44
1896	194,069 28	+11,711 79	189,373 75	+10,952 60
1897	196,818 72	+ 2,749 44	192,132 58	+ 2,758 83
1898	209,183 12	+12,364 40	201,710 66	+ 9,578 08
1899	220,673 14	+11,490 02	213,061 24	+11,350 58
1900	225,798 96	+ 5,125 82	218,741 57	+ 5,680 33
1901*	233,227 98	+ 7,429 02	218,815 05	+ 73 48
1902*	231,594 98	— 1,633 00	223,903 08	+ 5,088 03
1903	245,358 59	+13,763 61	238,673 13	+14,970 05
1904	249,779 77	+ 4,421 18	244,767 77	+ 6,094 64
1905	259,133 06	+ 9,353 29	252,747 50	+ 7,979 73
1906*	263,746 17	+ 4,613 11	260,186 99	+ 7,439 49
1907*	267,263 78	+ 3,517 61	255,109 17	— 5,077 82
1908*	293,896 28	+26,632 50	291,108 15	+35,998 98
1909	302,230 17	+ 8,333 89	298,449 48	+ 7,341 33
1910	327,333 58	+25,103 41	322,845 84	+24,396 36
1911	344,591 64	+17,258 06	341,057 40	+18,211 56
1912	341,515 25	†—3,076 39	333,828 67	†—7,228 73

☞For amounts abated and uncollected, see detail in Registrar's report.

*See explanatory notes in annual reports for years indicated.

†☞The 1912 *decrease* in "Water Rates Charged" and "Water Rates Collected" is due to the metering of all unmetered supplies (not yet completed) and the consequent transition from *semi-annual advance billing* to *arrears quarterly billing*, and indicates rather a probable "deferred increase."

The larger decrease in "Water Rates Collected" is due to the unusual amount of *advance rates abated* because of meters set after bills are committed to the Collector.

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APPENDIX IV.

SERVICE TAPS AND SUPPLY AND DISTRIBUTION MAINS SINCE 1884.

Year.	Service Taps.		Distribution Mains.		Supply and Distribution Mains in Use. (Miles.)
	Total Number.	Net Increase.	Extensions. (Feet.)	Cost of Extensions.	
1885	4,237	224	10,014	$11,235 33	75 01
1886	4,519	282	18,993	14,158 71	78 65
1887	4,819	300	17,244	14,600 36	81 55
1888	5,147	328	13,877	14,038 56	84 97
1889	5,497	350	29,059	26,418 94	91 11
1890	5,770	273	9,962	7,833 06	92 28
1891	6,181	411	14,927	10,396 00	94 86
1892	6,633	452	24,853	16,253 21	98 63
1893	7,000	367	25,079	17,090 71	102 97
1894	7,482	482	20,280	13,491 16	117 21*
1895	7,900	418	32,368	25,302 47	123 65
1896	8,298	398	23,521	21,018 62	127 80
1897	8,721	423	39,108	22,349 41	134 71
1898	9,070	349	28,810	16,042 36	140 08
1899	9,456	386	20,851	10,069 22	143 21
1900	9,764	308	9,880	6,362 20	144 69
1901	10,034	270	8,668	5,174 62	146 22
1902	10,221	187	5,353	3,060 71	147 34
1903	10,471	250	16,425	13,147 42	150 44
1904	10,641	170	9,767	6,163 18	152 20
1905	10,946	305	20,309	17,290 22	154 67
1906	11,175	229	17,027	24,054 14	156 84
1907	11,385	210	20,099	114,117 98**	160 42
1908	11,706	321	19,047	72,635 91**	161 85
1909	12,134	428	30,177	111,153 39**	174 87*
1910	12,545	411	45,520	152,570 23**	182 74
1911	12,985	440	31,816	43,044 79**	188 87
1912	13,407	422	31,220	39,747 99	195 11

* The total of 117.21 miles of main and distribution pipe at end of 1894 includes 10.86 miles of "Ludlow Supply Main No. 2," laid in 1893 and 1894; and the total of 174.87 miles at end of 1909 includes 13.29 miles of "Little River Supply" pipe, laid in 1908-1909-1910.

** Amounts include *extension-cost* of "Circuit" mains, as follows:—1907=$93,911.77; 1908=$26,776.96; 1909=$91,900.00; 1910=$121,039.43; 1911=$4,668.65; leaving following balances for ordinary and improvement extensions:—1907=$20,206.21; 1908=$45,858.95; 1909=$19,253.39; 1910=$31,530.80; 1911=$38,351.14.

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APPENDIX V.

TABLE OF METERS AND INDICATORS.

(In use October 1, 1912.)

☞NOTE:—Only those meters are here included which show some registration charged for during the last quarter of the fiscal year, viz.: the 3 months preceding Oct. 1.

KIND AND SIZE.	⅝″ or ⅝″	¾″	1″	1¼″	1½″	2″	3″	4″	6″	8″	Indicators.	Totals.
Meters.												
Crest,								1				1
Crown,	1,047	639	95		47	64	30	26	7			1,955
Desper,	1											1
Empire,	1	3	16		20	12	5	3	1			61
Empire Compound,							1					1
Gem,						1		3	1			5
Hersey Detector,							1	7	18	3		29
Hersey Disc,	1,216	538	94		3	1						1,852
Hersey Rotary,	232	296	20		22	13	8	9	2			602
Keystone,	387	226	89	4	20	15	9					730
Lambert,	155	68	21		1							245
Nash,	1,556	866	271		11	1	1					2,706
Thomson,	5	7										12
Trident,	711	267	73		4	1						1,056
Trident Compound,						1	2	2				5
Union Rotary,	45	14	2		1	1						63
Worthington Disc,	458	60	15									533
Worthington Turbine,										2		2
												9,859
Indicators.												
Desper (for elevators)											101	
Friction (" ")											1	
Graves (" ")											4	111
Ross (" motors)											1	
Whitney (" ")											1	
Whittier (" elevators)											3	
Totals, 1912,	5,814	2,994	666	4	129	110	57	51	29	5	111	9,970

Net addition to above table during year to October 1, 1912=1,556.

Total meters *set* during *work-year* ending November 30, 1912 (as shown in Superintendent's report)=3,033.

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APPENDIX VI.

COMPARATIVE STATEMENT,

SHOWING THE CLASSES OF CONSUMERS AND THE NUMBER OF EACH CLASS SUPPLIED BY THE AQUEDUCT COMPANY IN 1864, AND BY THE CITY IN 1874, 1880, 1900, 1910, 1911, AND 1912.

CLASSES.	1864.	1874.	1880.	1900.	1910.	1911.	1912.
Bakeries	.....	.....	8	36	55	58	60
Banks	2	9	12	16	10	10	10
Barber Shops	2	14	3	85	128	132	137
Bath Tubs	.....	439	..829	8,777	17,080	18,909	20,636
Beer Pumps	.....	.....	.....	67	91	91	91
Boarding Houses	.....	33	55	77	96	94	90
Breweries	.....	.....	2	2	3	3	3
Cemeteries	.....	.....	1	6	6	6	6
Churches (from 1895)	.....	.....	.....	39	60	59	59
Churches, Halls, and Public Buildings (to 1895)	2	12	14	.....	.....	.....	.....
Clubs, Societies, etc. (from 1897)	.....	.....	.....	34	37	37	37
Dyehouses and Bleacheries	2	2	3	4	5	4	7
Elevators	.....	.....	15	154	265	301	304
Families	1,288	3,637	4,893	15,179	22,748	24,241	25,779
Fish Tanks and Aquariums	.....	.....	.....	10	10	10	9
Foundries	4	5	6	13	18	17	17
Fountains (private)	.....	.....	12	9	9	9	9
Fountains (public)	.....	.....	.....	14	17	16	16
Garages (public) (from 1908)	.....	.....	.....	.....	12	13	18
Gas Works	.....	.....	1	1	1	1	1
Greenhouses	2	3	9	24	28	28	23
Halls (from 1895)	.....	.....	.....	53	77	78	65
Hose	.....	.....	885	3,827	6,163	6,746	6,895
Hotels	7	12	15	19	18	19	17
Laundries (public)	.....	6	6	41	40	42	46
Manufactories	6	50	80	79	89	90	91
Markets	..8	31	54	105	130	131	132
Motors	.....	.....	13	76	94	91	91
Offices and Rooms	.....	88	521	1,834	3,258	3,334	3,563
Parks (from 1895)	.....	.....	.....	13	16	16	15
Photographers	.....	6	9	11	18	18	17
Printers and Publishers	.....	.....	.....	25	32	31	31
Public Buildings and Institutions (from 1895)	.....	.....	.....	27	30	30	32
Railroads	.....	.....	3	4	4	4	4
Restaurants	5	14	17	49	97	102	101
Saloons	9	34	32	44	54	56	56
Schools (total to 1897)	.....	12	15	.....	.....	.....	.....
Schools (private) (from 1897)	.....	.....	.....	14	14	14	14
Schools (public) (from 1897)	.....	.....	.....	32	35	36	35
Shops	18	51	88	333	463	483	497
Stables (private)	82	274	379	1,260	1,390	1,388	1,382
Stables (public)	6	14	23	31	20	20	22
Steam Engines	.....	.....	48	116	121	120	121
Steam Heaters	.....	.....	32	806	1,345	1,545	1,895
Stores	125	225	320	693	1,044	1,132	1,208
Street Railways (from 1895)	.....	.....	.....	1	1	1	1
Urinals	.....	131	296	560	729	770	788
Water Closets	.....	1,192	2,402	16,958	29,244	31,767	33,885
Watering Tanks and Drinking Fountains	.....	.....	.....	14	19	18	18

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APPENDIX VII.

SUMMARY OF STATISTICS

For the Year Ending November 30, 1912.

In form recommended by the New England Water Works Association.

SPRINGFIELD WATER WORKS,

City of Springfield, Hampden County, Massachusetts.

GENERAL STATISTICS.

Population of Springfield by U. S. census of 1910, . . . 88,926
Estimated population of Springfield for 1912, ... 95,080
Dates of construction:—
Original works in city, by private company, . . 1864
(Sale of same to city, for $238,296.00, in 1872.)
Works at Ludlow, Mass., ... 1873–1874–1875
Works at Belchertown, Mass., ... 1890–1891
Additional main from Ludlow reservoir, . . . 1893–1894
New supply from Westfield Little River, . . . 1907–1910
By whom owned, ... City of Springfield
Source of supply (a) used by Springfield (filtered and metered):—
From Westfield Little River, storage capacity as follows:—
Borden brook reservoir, ... 2,500,000,000 gallons
Intake reservoir, ... 40,600,000 gallons
Sedimentation basin, ... 38,700,000 gallons
Provin mountain reservoir (*filtered*), . 17,000,000 gallons
Total, ... 2,596,300,000 gallons
Source of supply (b) used by adjoining town of Ludlow and portion of Wilbraham (unmetered):—
☞ *See note under "Consumption."*
From impounding reservoirs in Ludlow and Belchertown (fed by natural streams, springs and surface water); storage capacity:—
Total, ... 1,434,218,000 gallons
(Aggregate storage capacity, 4,030,518,000 gallons.)
Mode of supply, ... by gravity
Auxiliary supply (emergency), by pumping from Chapin, Five Mile, and Loon ponds (not used, and ordered abandoned, by vote of Water Board, November 5, 1912).
Total pumpage during emergency season of 1912, . . none

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FINANCIAL STATISTICS.

(NOTE.—All expenditures, including ordinary extensions of mains, etc., are made from general receipts—from water rates, sales, etc.—but the *amount* of such expenditure is annually determined by the City Council.)

RECEIPTS (*credited*)—1912.

Balance brought forward:—			
(*a*) From ordinary (maintenance) receipts (see disposition of same),			
Inventory of material, tools, etc., on hand Nov. 30, 1911,		$105,687 77	
(*b*) From extraordinary receipts (bonds, etc.), for Little river supply fund, Nov. 30, 1911,		190,127 94	
Net total (forward from 1911),			$295,815 71
From Water Rates:—			
A. Fixture rates,		$52,280 66	
B. Meter rates,		281,548 01	
C. Total water rates from consumers (*income-cash*),			333,828 67
D. For fire hydrants, average 1,430 @ $25.00 each,		$35,750 00*	
E. For public fountains, etc. (in parks),		632 00*	
F. For street watering,		7,672 18*	
G. For public buildings and departments (including $118.00 for water department buildings,—charged to "Operation" account under expenditures),		16,080 00*	
H. For miscellaneous public uses:—			
(*a*) Flushing sewers, 516 flush gates @ $10.00 each,	$5,160 00*		
(*b*) Watering tanks and drinking fountains,	670 00*		
(*c*) Building purposes (sewers and streets),	283 70*	6,113 70*	
I. General appropriation (for water),			
J. Total from municipal departments (*income-value*),			66,247 88*
K. *From tax levy* (for extensions, etc.),			
L. *From bond issue* (for construction, etc.),			
From sundry sales (account construction of new supply), reversion to Little river fund,		$169 37	169 37
M. *From other sources:*—			
(*a*) From consumers and others, for services, meters, repairs, sales, penalties, etc. (*income-cash*),	$64,841 80		
From city interest account for use of Little river funds (*cash*),	3,387 50		
From Little river supply fund, loan-transfer (*cash*),	12,000 00	$80,229 30	
(*b*) From water department employees for house rentals allowed in part payment for services,—charged to "Operation" accounts under expenditures (*income-value*),		1,504 04*	
(*c*) From pay-roll envelopes unclaimed, account 1909, 1910, 1912 (*cash*),		16 39	
(*d*) From sale of Bridge st. property,—first payment on account (*cash*),		6,250 00	87,999 73
N. Total credited (including inventory forward),			$784,061 36

EXPENDITURES (*charged*)—1912.

Water Works Maintenance:—			
AA. Operation (management and repairs):—			
(*a*) Ordinary—(as heretofore),		$80,096 29	
(*b*) Little river supply operating (additional),		29,019 21	$109,115 50
BB. Special:—			
(*a*) Distribution mains, renewal,		$11,041 77	
(*b*) Distribution system, frozen mains and services,		3,763 74	
(*c*) Damages (broken mains, etc.),		786 48	
(*d*) Meter installing expense (unusual),		3,200 00	
(*e*) Little river watershed, expense account trolley line,		1,498 61	
(*f*) Miscellaneous,		1,066 58	21,357 18
CC. *Total maintenance charged* 1912 (*see analysis*),			$130,472 68
DD. Interest on bonds, (CC+DD=$219,177.68.)			$8,705 00
EE. Payment of bonds (for new supply), (old supply bonds paid from sinking fund)			60,000 00
FF. Sinking fund (see "MM BALANCE"),			
Water Works Construction:—			
GG. Extension of mains,		$39,747 99	
HH. Extension of services (paid for by consumers;—see "M" and "LL"),			
II. Extension of meters (paid for by consumers;—see "M" and "LL"),			
JJ. Special (*ordinary*):—			
(*a*) Hydrants—extension,	$2,573 72		
(*b*) Gates and valves—extension,	2,659 77		
(*c*) Real estate, for new shop, yard, stable, etc.,	13,695 92	18,929 41	
Total construction charged 1912 (*ordinary and improvement*),		$58,677 40	
Less amounts *credited* 1912 to construction accounts of previous years, for material, etc.,		93 66	
Net construction charged 1912 (*ordinary and improvement*),		$58,583 74	
JJ. Special (*extraordinary*):— Little river supply (*from bond proceeds*),		148,972 17	

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ANALYSIS OF RECEIPTS (*credited*) — 1912.

From "Income—*cash*" accounts (collected),	$420,324 36
From "Income—*value*" accounts (credited),	67,751 92*
Total income (collected and credited),	$488,076 28
From bond issue and sales (for new supply),	169 37
Total,	$488,245 65

ANALYSIS OF EXPENDITURES (*charged*) — 1912.

Accounts Charged, 1912.	Net Totals *Charged*, During 1912.	From Bond *Proceeds*, 1912. New Supply.	From Water Works *Value* Income, 1912.	From *Material* Paid for *Before* 1912. Charged 1912 Work.	From *Nov.* Approved Accounts 1911-1912, Paid from next Year's Receipts—(*Net*).	From Water Works *Cash* Income, 1912.
Construction,	$207,555 91	−$148,972 17	.....	−$8,585 78	+$1,601 81	$51,619 77
Maintenance,	130,472 68	.....	.....	.....	.....	130,472 68
Sales,—cost,	68,920 61	.....	−$1,622 04	−5,388 66	+1,077 39	193,459 98
Interest paid,	88,705 00	.....	.....	.....	.....	88,705 00
Bonds paid,	60,000 00	.....	.....	.....	.....	60,000 00
Totals,	$555,654 20	−$148,972 17	−$1,622 04	−$13,954 44	+$2,679 20	$393,784 75
Inventory,	(−$14,489 52)	= (1912 *decrease*)	.....	+$13,954 44	+4,275 75	3,740 67
Totals,	($390,570 47)	= {W. W. accts. approved 1912, plus interest and bonds paid}			+$6,954 95	= $397,525 42

KK.	*Net aggregate construction charged* 1912 (*see analysis*),		207,555 91
	Water Works "Sales," etc.:—		
LL.	Unclassified expenses:— Cost of labor and material charged to consumers, for services, meters, repairs, sales, etc. (see "M," "HH" and "II") (*see analysis*),		68,920 61
	Net total expenditures *charged* 1912 (for work, etc., including interest and bond payments) (*see analysis*),		$555,654 20
MM.	BALANCE:—		
(*aa*)	Ordinary (divided as follows):— Surplus *cash* receipts for sinking fund (see "FF"),	$22,798 94	
	Estimated *value* of municipal use of water (charged to "City of Springfield—Special Account"),	66,129 88	
	Inventory of material, tools, etc., on hand Nov. 30, 1912,	91,198 25	
		$180,127 07	
(*bb*)	Extraordinary:—(as follows):— Little river supply fund (*cash* balance from bond proceeds), Nov. 30, 1912,	41,325 14	
	Total balance,		221,452 21
			$777,106 41
	Plus Nov., 1911, accounts, approved and charged 1911 (not included above), *but paid from* 1912 *receipts*,	+$19,686 45	
	Less Nov., 1912, accounts, approved and charged 1912 (included above), *but not paid from* 1912 *receipts*,	−12,731 50	
	Plus net difference (*see analysis*),		+6,954 95
N.	Total (in balance with receipts),		$784,061 36

*No *cash* income derived, but estimated amounts charged and credited in ledger and annual report, as per city ordinance.

Disposition of balance:—*cash* surplus paid into sinking fund by city treasurer; *value* municipal use of water held as a book asset, to offset water bond payments and appropriations by the municipality; inventory of material, tools, etc., and balance of bond proceeds carried forward.

O.	Net cost of works to date,	Ludlow supply (including distribution),	$2,959,778 24	Little river supply,	$1,989,137 04	Total,	$4,948,915 28
P.	Bonded debt at date,	Ludlow supply,	$475,000 00	"	$1,908,000 00	"	$2,383,000 00
Q.	Value of sinking fund at date,	"	$249,516 24	"	.....	"	$249,516 24
R.	Average rate of interest,	"	3.87%	"	3.63%	"	.....

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STATISTICS OF CONSUMPTION OF WATER.

*(*For Springfield, only;—see note.*)

1.	Total population at date (estimated),	95,080
2.	Estimated population on lines of pipe,	93,902
3.	Estimated population supplied,	93,554
4.	Total consumption for the year (Venturi meters) (366 days),	3,901,900,000 gallons
5.	Passed through consumers' meters,	2,104,006,680 gallons
6.	Percentage of consumption metered (5÷4),	53.92 per cent
7.	Average daily consumption,	10,661,000 gallons
8.	Gallons per day to each inhabitant (7÷1),	112
9.	Gallons per day to each consumer (7÷3),	114
10.	Gallons per day to each tap (7÷ "Distribution System" 22),	795
11.	Cost of supplying water, per million gallons, figured on total maintenance (item CC),	$33 44
12.	Total cost of supplying water, per million gallons, figured on total maintenance plus interest on bonds,	$56 17

*NOTE:—*Above do not include Ludlow (estimated population, 5,374, about 3,150 supplied) and Wilbraham (estimated population, 2,582, about 500 supplied) furnished by old unmetered supply from Ludlow reservoir.*

STATISTICS RELATING TO DISTRIBUTION SYSTEM.

MAINS.

1.	Kind of pipe used;—wrought-iron cement-lined (formerly used by private aqueduct company and by city);—wrought-iron—for small and temporary mains,—and cast-iron and steel (used by city at present).	
2.	Sizes;—from one to 54 inches.	
3.	Extended during year (added to pipe table, including all changes, etc.),	40,061 feet
4.	Discontinued during year (deducted from pipe table, including all changes, etc.),	7,105 feet
5.	Total now in use,	195.11 miles
6.	Cost of repairs per mile (including big breaks),	$10 75
7.	Number of leaks per mile (total leaks=73),	0.37+
8.	Length of pipes less than 4 inches in diameter,	7.14 miles
9.	Number of hydrants added during year (public=73, and private=0) (net),	73
10.	Number of hydrants (public=1,466, and private=107), now in use,	1,573

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11.	Number of stop gates added during year (public and private) (net),	342
12.	Number of stop gates now in use,	4,238
13.	Number of gates smaller than 4 inch,	656
14.	Number of blow-offs (air valves),	102
15.	Range of pressure on mains:—	
	(*a*) Main street level,	about 144 pounds
	(*b*) Hill section level,	about 86 pounds

SERVICES.

16. Kind of pipe used:—lead (formerly used by private aqueduct company);—cement-lined wrought-iron, and tarred wrought-iron (formerly used by city);—galvanized wrought-iron, lead-lined wrought-iron, and cast-iron (used by city at present).

17. Sizes from ¾ to 8 inches.

18. Extended during year (in feet).
19. Discontinued during year (in feet).
20. Total now in use (in miles).

NOTE.—Services paid for entirely by the consumers, and no special statistics kept of them.

21. Number of service taps added during year (net) (to December 1st), 422
22. Number of service taps now in use (to December 1st), 13,497
23. Average length of service,
24. Average cost of service,

(See note under 18, 19, 20.)

25.	Number of meters added (including indicators) (net) (to October 1st),		1,556
	(*a*) Meters added,	1,573	
	(*b*) Indicators discontinued,	17	
26.	*Number of meters now in use (including indicators) (to October 1st),		9,970
	(*a*) Meters (on supply pipes),	9,859	
	(*b*) Indicators (on elevators and motors),	111	
27.	*Percentage of services metered (26÷22),	74.36 per cent.	
28.	Percentage of cash receipts from metered water (to October 1st) (B÷C),	84.33 per cent.	
29.	Number of motors and elevators added (net),		3
	(*a*) Motors added, 1; discontinued, 1;	= ÷ 0	
	(*b*) Elevators added, 10; discontinued, 7;	= +3	
30.	Number of motors and elevators now in use,		395
	(*a*) Motors,	91	
	(*b*) Elevators (direct=217; indirect=87),	304	

*Estimated number of meters installed to December 1st = 11,635. Percentage of services metered December 1st (basis of foregoing and No. 22) = 86.78 + per cent.

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APPENDIX VIII.

WATER PIPE LAID AND TAKEN OUT IN 1912, INCLUDING ALL CHANGES IN PIPE TABLE.

LOCATION.	Size in Inches.	Material.	Length in Feet. Amounts.	Totals.
Pipe Laid by Private Parties.				
Lester st., near Vermont (S. R. 15610 and 20158), added to table, account of 1907,	1	Wrought-iron	33	
Moore ave., I. O., south from 6″ main (S. R. 19865),	1	"	98	
Pasco st., I. O., south from Bay road (S. R. 19367),	1	"	380	
Sylvan ave., south from 6″ main (S. R. 19427),	1	"	24	
Wait st., east from former 1″ (S. R. 19295),	1	"	146	681
Bay st., east from 8″ main (S. R. 19398),	1¼	"	201	
Centre st., I. O., east from 6″ main (S. R. 19713),	1¼	"	53	
Whiting st., formerly service, added to table account of 1908 (S. R. 16568 and A),	1¼	"	675	929
Morell st., northerly from Carew st. (S. R. 19881),	2	"	233	
Walnut ct., westerly from Walnut st. (S. R. 3187) formerly service, added to table, account of 1880,	2	"	222	455
Total wrought-iron laid by private parties (forward),				2,065
Pipe Laid by City.				
Maple st., Ludlow, added to table, account formerly service pipe (see S. R. 11033),	1	Wrought-iron	61	
Washington boulevard, westerly from 6″ main,	1	"	218	279
Highland st., west from 6″ main (see S. R. 19313),	1¼	"	61	
Sewell st., Ludlow, at North, connecting,	1¼	"	107	
West st., League park to North End bridge,	1¼	"	385	553
Alvord triangle, East Alvord ave. to West Alvord,	2	"	233	
Arlington court, west from Main st.,	2	"	273	
Maple st., Pine to George,	2	"	397	
Orleans ct., at Oak st.,	2	"	14	917
Total wrought-iron laid by city (forward),				1,749

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WATER PIPE LAID, ETC., IN 1912.—CONTINUED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET.	
			Amounts.	Totals.
State st., near N. Y., N. H. & H. R. R. to College st.,	4	Cast-iron	1,638	1,638
Andrew st., at State,	6	"	18	
Applewood pl., account error in table,	6	"	4	
Bartlett ave., Carew st. to Massasoit pl.,	6	"	259	
Beaumont st., at Dickinson, connecting	6	"	27	
Biltmore st., Dickinson to Trafton road	6	"	1,097	
Blaine st., White to Brunswick ave.,	6	"	404	
Briggs st., I. O., east from Moore ave.,	6	"	88	
Burlington st., at Dickinson, connecting,	6	"	28	
Burr st., completion to Oak Grove ave.,	6	"	232	
Charter ave., at Oak st., connecting,	6	"	29	
Chicopee road, south from Carew st.,	6	"	494	
Clarendon st., Worthington to Dartmouth terrace,	6	"	670	
Cliftwood st., correction to table,	6	"	109	
Crane st., north from Franklin,	6	"	303	
Denton circle, east from Liberty st.,	6	"	309	
Dickinson st., Oakland to Mason pl., and at Sumner ave., connecting,	6	"	222	
Division st., west from Plainfield,	6	"	189	
Duryea st., south from Page boulevard,	6	"	442	
Dymon st., at Oak, connecting,	6	"	21	
Eleanor road, extension,	6	"	164	
Forest Park ave., completion to Pineywoods,	6	"	22	
Fresno st., south from Page boulevard,	6	"	432	
Gillett st., east from Crane,	6	"	245	
Grand st., Revere to Malden,	6	"	253	
Greenbrier st., Trillium to Blaine,	6	"	317	
Harris road, Ludlow, Mero st. to Maple,	6	"	460	
Hayden ave., at State,	6	"	13	
Herman st., at Sumner ave.,	6	"	39	
HYDRANTS, sundry streets:—				
Albemarle ave.,	6	"	9	
Amaron st.,	6	"	3	
Andrew st.,	6	"	13	
Armory st.,	6	"	3	
Atwater terrace,	6	"	3	
Berkshire ave.,	6	"	3	
Biltmore st.,	6	"	13	
Boston road,	6	"	10	
Cambridge st.,	6	"	4	

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WATER PIPE LAID, ETC., IN 1912.—CONTINUED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET.	
			Amounts.	Totals.
Chestnut st.,	6	Cast-iron	9	
Chicopee road,	6	"	7	
Clarendon st.,	6	"	44	
Concord terrace,	6	"	3	
Cortland st.,	6	"	3	
Crane st.,	6	"	3	
Dartmouth terrace,	6	"	33	
Denver st.,	6	"	4	
Dickinson st.,	6	"	8	
Division st.,	6	"	4	
Dunmoreland ave.,	6	"	2	
Duryea st.,	6	"	3	
Dwight st.,	6	"	3	
East Alvord ave.,	6	"	6	
Fresno st.,	6	"	2	
Greenbrier st.,	6	"	2	
Homer st.,	6	"	8	
Homestead ave., I. O.,	6	"	12	
Jasper st.,	6	"	6	
Johnson st.,	6	"	4	
Margerie st.,	6	"	4	
Marshall pl.,	6	"	8	
Massachusetts ave.,	6	"	2	
Miller st.,	6	"	3	
Monrovia st.,	6	"	3	
Montrose st.,	6	"	7	
Mooreland ave.,	6	"	4	
Napier st.,	6	"	23	
Oak st.,	6	"	15	
Oak Grove ave.,	6	"	6	
Oxford st.,	6	"	3	
Page boulevard,	6	"	76	
Ranney st.,	6	"	8	
Round Hill,	6	"	20	
Rutland st.,	6	"	3	
State st.,	6	"	3	
Stevens st.,	6	"	45	
Sumner ave.,	6	"	10	
Tremont st.,	6	"	3	
Trillium st.,	6	"	3	
Union st.,	6	"	19	
Virginia st.,	6	"	10	
Wentworth ave.,	6	"	12	
West st.,	6	"	3	
Wilbraham road,	6	"	4	
Wilton st.,	6	"	3	
William st.,	6	"	3	

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WATER PIPE LAID, ETC., IN 1912.—CONTINUED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET.	
			Amounts.	Totals.
Kenwood Park, at Dickinson st., connecting,	6	Cast-iron	35	
Lillian st., at Oak,	6	"	14	
Margerie st., at State,	6	"	19	
Marshall pl., Walnut st. to Melrose ct.,	6	"	410	
Massasoit pl., completion to Bartlett ave.,	6	"	138	
Melrose ct., at Eastern ave.,	6	"	90	
Miller st., extension easterly,	6	"	304	
Moore ave., I. O., extension northerly,	6	"	112	
Mooreland ave., completion to Van Horn,	6	"	233	
Oxford st., extension to Riverview ter.,	6	"	248	
Parkside ave., completion to Van Horn,	6	"	384	
Pequot st., I. O., west from Lyons,	6	"	207	
Pineywoods ave., Forest Park to Washington road, and completion to Washington boulevard,	6	"	368	
Ranney st., Kensington ave. to Johnson st., and completion to Alderman,	6	"	935	
Ruskin st., southerly from Eleanor rd.,	6	"	146	
Trillium st., White to Greenbrier,	6	"	438	
Tyler st., near Oak,	6	"	9	
Virginia st., Dickinson to Trafton road,	6	"	969	
Waltham ave., extension to Wilbraham	6	"	381	
Wentworth ave., west from Liberty,	6	"	460	
West st., extension to League park,	6	"	654	
Westford circle, east from Westford ave	6	"	296	
Wilmont st., completion to Ranney,	6	"	255	
Wilton st., south from Boston road,	6	"	745	15,270
Albemarle ave., south from Wilbraham road,	8	"	1,261	
Amaron st., State to Wilbraham road,	8	"	479	
Atwater terrace, north from Springfield st.,	8	"	938	
Bay st., at St. James ave., connecting,	8	"	71	
Concord terrace, State to Wilbraham road,	8	"	410	
Dunmoreland ave., south from Wilbraham road,	8	"	610	
East Alvord ave., north from Sumner,	8	"	521	
Franklin st., east from Webster,	8	"	148	
Homestead ave., I. O., south from Berkshire,	8	"	1,160	
HYDRANTS, sundry streets:—				
Sumner ave.,	8	"	5	
Mapledell st., at State,	8	"	15	

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WATER PIPE LAID, ETC., IN 1912.—CONTINUED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET. Amounts.	Totals.
Massachusetts ave., extension southerly,	8	Cast-iron	506	
Monrovia st., south from Page boulevard,	8	"	308	
Montrose st., completion to State,	8	"	24	
Napier st., east from Armory,	8	"	625	
Oak st., State to Tyler,	8	"	1,167	
Oak Grove ave., completion,	8	"	907	
Quincy st., at Oak,	8	"	14	
Rutland st.,	8	"	344	
Stebbins st., account error in table,	8	"	7	
Sumner ave., at Dickinson st., connecting,	8	"	32	
Tremont st., east from Second,	8	"	484	
Union st., near Oak,	8	"	26	
Van Horn ave., Armory st. to Parkside ave.,	8	"	518	
Washington boulevard, east from Pineywoods,	8	"	204	
West Alvord ave., west from East Alvord,	8	"	243	11,027
Oak st., Tyler to Walnut,	10	"	195	
St. James ave., State st. to Bay,	10	"	133	
Tyler st., at Oak,	10	"	30	
Union st., at Oak,	10	"	68	426
Stevens st., south from Page boulevard,	12	"	638	
White st., at Sumner ave., connecting,	12	"	40	678
Sumner ave., Dickinson st. to White,	16	"	2,547	2,547
Dickinson st., Oakland to Sumner ave.,	20	"	2,130	2,130
Ludlow main No. 1, at Hampden R. R.,	24	"	1,069	
State st., N. Y., N. H. & H. R. R. to east of Oak Grove ave.,	24	"	1,462	2,531
Total cast-iron laid by city (above),				36,247
Total wrought-iron laid by city (forward),				1,749
Total wrought-iron laid by private parties (forward),				2,065
Total amount added, 1912,				40,061
Pipe Taken Out or Abandoned.				
Franklin st., east of Webster (replaced by 8"),	1	Wrought-iron	4	4
Melrose st., east from Walnut st.,	1¼	"	192	
Rutland st. (replaced by 8"),	1¼	"	146	338

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WATER PIPE LAID, ETC., IN 1912.—CONTINUED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET. Amounts.	Totals.
Amaron st. (replaced by 8″),	1½	Wrought-iron	480	
Marshall pl. (replaced by 6″),	1½	"	163	
Orleans ct., at Oak st. (part replaced by 2″),	1½	"	30	673
Charter ave., at Oak st. (replaced by 6″),	2	"	13	
Clarendon st., near Worthington (replaced by 6″),	2	"	233	
Concord terrace (replaced by 8″),	2	"	202	
Franklin st., near Webster (east) (replaced by 8″),	2	"	68	
Maple st., at George (replaced by 2″),	2	"	76	
Oak Grove ave. (replaced by 8″),	2	"	132	724
Rutland st. (replaced by 8″),	3	"	39	39
Andrew st., at State (replaced by 6″),	4	Cast-iron	18	
Hayden ave., at State st. (replaced by 6″),	4	"	13	
Lillian st., at Oak (part replaced by 6″),	4	"	29	
Maple st., Pine to near George (replaced by 2″),	4	Wrought-iron	279	
Stebbins st., account error in table,	4	Cast-iron	9	348
Alderman st., at Dickinson,	6	"	28	
Dickinson st., Oakland to Johnson (replaced by 6″),	6	"	189	
Franklin st., east from Webster (replaced by 8″),	6	"	76	
Greene st., account error in table,	6	"	1	
Grenada terrace, at Dickinson st.,	6	"	30	
Harris road, Ludlow (replaced by 6″),	6	"	460	
Mapledell st., at State (replaced by 8″),	6	"	15	
Mason pl., at Dickinson st.,	6	"	25	
Morgan st., account error in table,	6	"	12	
Oak st., State to Walnut (replaced by 8″ and 10″),	6	Cement-lined	1,334	
Pasadena st., account error in table,	6	Cast-iron	10	
Quincy st., at Oak (replaced by 8″),	6	"	30	
Railroad st., account error in table,	6	"	3	
Tyler st., at Oak (replaced by 10″ and 6″),	6	Cement-lined	39	
Wilmont st.,	6	Cast-iron	33	2,285
Oak Grove ave., at State (replaced by 8″),	8	"	12	
Union st., at Oak (replaced by 10″),	8	Cement-lined	94	
White st., at Sumner ave. (replaced by 12″),	8	Cast-iron	40	146
Jefferson ave., account error in table,	12	"	14	
School st., account error in table,	12	"	3	17

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WATER PIPE LAID, ETC., IN 1912.—CONCLUDED.

LOCATION OF PIPE.	Size in Inches.	Material.	LENGTH IN FEET.	
			Amounts.	Totals.
Ludlow main No. 1 at Hampden R. R. (replaced by 24" cast-iron),	24	Cement-lined	1,069	
State st., east of N. Y., N. H. & H. R. R. (replaced by 24" cast-iron),	24	"	1,462	2,531
Total amount, taken out or abandoned, 1912,				7,105
Net amount added to pipe table, 1912,				32,956

☞Names of public streets changed by order of City Council, and of private streets changed by mutual agreement, and now changed in pipe table as follows:—

"Center street, I. O.," to "Centre street, I. O."
"Cherry lane" to "Cherry street."
"Cook's avenue" to "Broadway."
"Cottage avenue" to "Melrose court."
"Spencer avenue" to "Spencer street."
"Worthington court" to "Superior place."

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APPENDIX IX.

SUPPLY AND DISTRIBUTION MAIN PIPE IN USE DECEMBER 1, 1912.

[*Pipe Belonging to Private Parties Marked (P).*]

LOCATION OF PIPE	Size in Inches	Length in Feet			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Abbe ave., west from Plainfield st.	6	....	....	1,065	
do. Plainfield st. to Fisk ave.	6	....	....	691	1,756
Acorn st., Sycamore to Maynard	6	....	....	432	432
Acushnet ave., east from Main st.	6	....	....	1,076	1,076
Adams st.	8	....	....	1,052	1,052
Albany st., west from 30" "Circuit Main"	8	....	....	596	596
Albemarle ave., south from Wilbraham road	8	....	....	1,261	1,261
Alden st., at Hancock	16	....	....	4	
do. from 16" at Hancock to Wilbraham ave.	6	....	....	2,255	
do. Wilbraham ave. to Hickory st.	8	....	....	437	2,696
Alderman st.	6	....	....	1,381	1,381
Alert st., north from Worthington	2	233	....	....	233
Alexander st.	6	....	....	454	454
Alfred st.	6	....	....	554	554
Allen ave., north from Allen st. (P) (S. R.–9,209)	2	200	....	....	
do. north from private pipe	2	144	....	....	344
Allen st., from Mill river (at U. S. Watershops) to Oakland st.,–243 feet,–(see "Circuit Main," Forest Park section)	24	....	....		
do. Oakland to White	8	....	....	568	
do. White to Plumtree road	6	....	....	4,480	5,048
Allendale st.	6	....	....	694	694
Alvord triangle, East Alvord ave. to West Alvord	2	233	....	....	233
Amaron st.	8	....	....	479	479
Ambrose st., south from Boston road (P) (S. R. 18,781)	1½	251	....	....	251
Amherst st.	6	....	....	1,341	1,341
Andrew st., north from State	6	....	....	18	
do. north from 6"	4	....	....	1,384	1,402
Applewood pl., north from Belmont ave.	6	....	....	464	464
Arbor st.	6	....	....	468	468
Arbutus st., south from Bay	6	....	....	298	298
Arch st., North Main to east line of B. & M. R. R. location	6	....	....	971	971
Arch st., Ludlow, west from North	2	191	....	....	191

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Arlington ct., west from Main st	2	....	....	273	273
Armory st., Federal to Worthington	4	....	....	936	
do. Worthington to Summer	8	....	....	840	
do. Summer to north of N.E.R.R. tracks (west of abutments)	8	....	....	130	
do. from north of N. E. R. R. tracks to Van Horn pond	8	....	....	5,385	
do. Van Horn pond to Springfield st	12	....	....	2,431	9,722
Armory st. ave., east from Armory st	6	....	....	519	519
Armory st. court, south from Armory st. ave	6	....	....	266	266
Ashley st	6	....	....	1,427	1,427
Ashmont st	6	....	....	505	505
Ashmun st., Central to Adams	8	....	....	270	
do. south from Adams (see S. R.–13,315)	1½	88	....	....	358
Aster st., south from Bay	6	....	....	342	342
Atwater ter., west from Rimmon ave.	6	....	....	936	
do. north from Springfield st	8	....	....	938	1,874
Auburn st	6	....	....	912	912
Austin st., north from State	8	....	....	375	375
Avon place	4	....	....	712	712
Avon place—Madison ave. connecting line	8	....	....	656	656
Bancroft st., North Main to 8″ at Chestnut	6	....	....	1,525	
do. at Chestnut	8	....	....	3	
do. east from North Main (hydrant only)	6	....	....	21	1,549
Banks place, west from Water st	6	....	....	227	227
Barber st., south from Boston road	6	....	....	464	464
Bartlett ave., Carew st. to Massasoit place	6	....	....	259	259
Bay path, north from Berkshire ave	8	....	....	904	904
Bay st., at St. James ave., connecting	8	....	....	71	
do. St. James ave. to Thompson st.	8	....	1,268	....	
do. Thompson to Arbutus (east)	8	....	....	5,688	
do. east from 8″ (P) (S. R.–19,398)	1½	201	....	....	7,228
Bay st. ave., south from Bay st. (see S. R.–11,664)	1½	150	....	....	150
Beacon st., Eastern ave. to Colton st.	6	....	....	326	
do. east from Colton	2	128	....	....	454
Beauchamp st., east from Armory	6	....	....	508	508
Beaudry st., I. O., south from Main	6	....	....	499	
do. south from 6″ (P) (S. R.–10,768)	1	310	....	....	809

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Beaumont st., Sumner ave. to Dickinson st	6	....	....	1,235	1,235
Bedford road, south from Rimmon ave.	2	295	....	....	295
Beech st	6	....	....	580	580
Beechwood ave., Sumner to Spruceland	6	....	....	567	567
Belgrade place, west from Walnut st	6	....	....	221	
do. west from 6"	4	....	....	147	368
Bellevue ave	8	....	....	1,592	1,592
Belmont ave., Fort Pleasant to White st.	8	....	....	9,160	9,160
Belmont place (see S. R.–12,367–12,368–15,317)	1½	247	....	....	247
Belvidere ave., Belmont to Fountain place	6	....	....	663	
do. south from Fountain place (P) (S. R.–15,304)	1	444	....	....	1,107
Bemis place, east from Chestnut st	2	354	....	....	354
Benton ave., east from Benton st	6	....	....	15	
do. east from 6"	2	590	....	....	605
Benton st., State to 6"	4	....	....	1,175	
do. from 4" to Wilbraham road	6	....	....	418	1,593
Berendo st	6	....	....	418	418
Berkeley st., Princeton to Monmouth	6	....	....	498	498
Berkshire ave., State st. to Chestnut, I. O. (see Ludlow supply, "Main No. 1")	24	....	——	....	
Berkshire st., I. O., Chestnut to Myrtle (see Ludlow supply, "Main No. 1")	24	....	——	....	
do. Myrtle to Oak	6	....	....	713	
do. east from Oak	6	....	....	382	1,095
Bethune st., north from Allen	6	....	....	800	800
Beverly st	6	....	....	251	251
Bevier st., east from Armory	6	....	....	617	617
Biltmore st	6	....	....	1,097	1,097
Birnie ave., Arch st. (south line) to Sheldon st. (42" from Little river), –332 feet,–(see "Circuit Main," lower section)	36	....	....	——	
do. at Sheldon st. (north) (connecting 6" line to 42" and 36" lines)	12	....	....	12	
do. at Sheldon st. (north) east from above 12" (connecting 6" line to 42" and 36" lines)	8	....	....	13	
do. Arch st. to Sheldon	6	....	....	336	
do. Sheldon st. to Wason ave	8	....	....	3,995	4,356
Blaine st., White to Brunswick ave	6	....	....	404	
do. east from Brunswick ave	2	138	....	....	542

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Blake hill, Belmont ave. to Fort Pleasant	6	....	....	386	386
Bliss st., Main to Water	10	....	....	1,027	
do. Water to Mechanics row	6	....	....	380	1,407
Bloomfield st., Oakland to Earl	6	....	....	1,033	
do. east from Earl	6	....	....	147	
do. west from Pasadena	6	....	....	20	1,200
Bond place, south from Bridge st	6	....	....	174	174
Bond st., Main to Chestnut	6	....	....	1,684	
do. east from Main (Parallel line	6	....	....	18	
do. east from 6" ... (for eng. h'se.	4	....	....	186	1,888
Boston ave., south from Boston road (P) (S. R.–8,171)	1¼	172	....	....	172
Boston & Albany R. R. and other private property, from north line of Railroad st. (in Water) crossing to south line of Cypress st. (opposite Boylston),–569 feet,–(see "Circuit Main," lower section)	36	....	....	——	
Boston & Maine R. R., east line of location to east line of Plainfield st. (under tracks, connecting Arch and Washburn sts.)	6	....	....	226	226
Boston road, east from Berkshire ave. (see S. R.–12,314)	6	....	....	130	
do. Ambrose st. to Jasper (P) (S. R.–18,764)	1½	466	....	....	
do. Jasper st. to Wilton	6	....	....	1,315	
do. east from Wilton st	6	....	....	170	
do. west from Parker st	6	....	....	1,540	3,621
Bowdoin st., St. James ave. to Worthington st	4	....	....	1,209	
do. Worthington to Ingersoll g've	6	....	....	833	2,042
Bowles st., Pease to McKnight	2	455	....	....	
do. McKnight to Bay	4	....	....	811	1,266
Boylston st	6	....	....	943	943
Bradford st	6	....	....	986	
do. west from North Main (hydrant only)	6	....	....	67	1,053
Bridge st., at Water (east)	8	....	....	12	
do. from 8" at Water to Chestnut	6	....	....	1,912	
do. (at Water st. 36" (west)	6	....	....	25	
do. (west from 6" (for West Springfield emergency supply)	3	14	....	....	
do. Water to Main	12	....	....	784	
do. east from Main	6	....	....	211	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Bridge st., west from Chestnut (parallel line) (see S. R.–18,311A)	6	....	....	190	3,148
Briggs st., I. O., east from Moore ave.	6	....	....	88	88
Brightwood ave., west from Plainfield st.	6	....	....	176	176
Bristol st., south from Wilbraham rd.	6	....	....	548	548
Broad st., Main to Hanover	10	....	....	1,016	1,016
Broadway, Bridge st. to North Church ave. (see S. R.–7,226–7,227)	4	....	....	142	142
Brookline ave	6	....	....	644	644
Brooklyn ave., south from Sumner	6	....	....	386	386
Brown st., Bay to Yale	6	....	....	570	570
Brunswick ave., Brooklyn to Blaine st.	6	....	....	1,278	1,278
Bryant st	8	....	....	941	941
Buckingham st., north from State	6	....	8	....	
do. from cement-lined to Bay	8	....	....	1,263	
do. Bay to Clarendon	4	....	....	788	2,059
Buckingham place, south from Buckingham st	1¼	149	....	....	
do. from 1¼" to Bay st	1¼	203	....	....	352
Buena Vista plaza, west from Longhill st. (P) (S. R.–10,533)	2	423	....	....	423
Burke st., I. O., south from Falmouth ave	6	....	....	266	266
Burlington st	6	....	....	415	415
Burr st., Andrew to Mapledell	4	....	....	665	
do. Mapledell to Oak Grove ave	6	....	....	232	897
Butler st., Chestnut to Arbor	6	....	....	973	
do. east from Arbor	6	....	....	194	
do. east from 6"	4	....	....	359	1,526
Byers st	10	....	....	1,430	1,430
Calhoun st., North Main to Chestnut	6	....	....	1,219	
do. at North Main (for hydrant only)	6	....	....	16	1,235
Cambridge st	6	....	....	1,596	1,596
Carew pl., north from Carew st	4	....	....	185	185
Carew st., Main to Chestnut, 1,672 feet (see Ludlow supply, "Main No. 2")	20	....	....	——	
do. Chestnut to Prospect, 1,984 feet (see Ludlow supply, "Main No. 2")	24	....	....	——	
do. easterly from Prospect, 427 feet (see "Circuit Main," north section)	36	....	....	——	
do. easterly from 36" to near Liberty (west), 3,496 feet (see "Circuit Main," north section)	30	....	....	——	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Carew st., easterly from near Liberty (west) to near St. James ave. (west) (see Ludlow supply, "Main No. 2")	30	....	....		
do. North st. to 12" at Chestnut	8	....	....	779	
do. at Chestnut (west)	12	....	....	9	
do. at Chestnut (east)	12	....	....	9	
do. from 12" at Chestnut (east) to Arbor	6	....	....	908	
do. east from Main (hydrant only)	8	....	....	19	
do. east from Armory (hydrant only)	6	....	....	11	1,735
Carew st. ave., north from Carew st. (P) (S. R.–12,009)	1¼	323	....	....	323
Carlisle st., south from Wilbraham road	6	....	....	692	692
Cass st., Liberty to Franklin	6	....	....	682	
do. Franklin to Linden	8	....	....	576	
do. Linden to Everett	4	....	....	353	1,611
Catharine st., State to Dartmouth	12	....	....	1,959	1,959
Cedar st., westerly from Pine to opposite No. 15	2	419	....	....	
do. Pine to Walnut	16	....	....	1,260	1,679
Cedar st., I. O.	4	....	383	....	383
Center st., from Shattuck to north of Oak Grove Park roadway	6	....	....	745	745
Centre st., I. O., east from Oak	6	....	....	856	
do. from 6" to Cedar	2	365	....	....	
do. east from Cedar	6	....	....	369	
do. east from 6" (P) (S. R.–19,713)	1¼	53	....	....	1,643
Central st., Main to Morris	8	....	....	914	
do. Morris to Maple	10	....	....	496	
do. Maple to Mill	8	....	....	4,077	5,487
Chapel st., east from Eastern ave.	6	....	....	414	
do. east from 6" (see S. R.–17,029)	1¼	16	....	....	430
Chapin pond, pumping station	8	....	....	163	
do. do.	12	....	....	299	462
Chapin terrace, Chestnut st. to Massasoit	8	....	....	668	668
Charles st., Franklin to Liberty	6	....	....	710	
do. south from Liberty	4	....	....	189	899
Charter ave., east from Walnut st.	6	....	....	267	
do. from 6" to Oak st.	2	360	....	....	
do. at Oak st.	6	....	....	29	656
Chase ave.	6	....	....	646	646
Cherrelyn ave., south from Phoenix st.	6	....	....	344	344
Cherry st., south from Central	6	....	....	1,134	
do. from 6" to Mill (see S. R.–12,558)	1¼	409	....	....	1,543

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Cherryvale ave.	6	....	....	735	735
Chester st., south from Central	6	....	....	924	924
Chestnut st., north from State	6	....	....	354	
do. from 6" to Harrison ave.	8	....	....	635	
do. Harrison ave. to Worthington st.	12	....	....	876	
do. north from Worthington	12	....	....	63	
do. from 12" to Carew	16	....	....	3,202	
do. Carew to Springfield	12	....	....	3,760	
do. Springfield to Eagle	8	....	....	599	9,489
Chestnut st., I. O., Worcester to Berkshire	8	....	....	711	
do. at Worcester (connecting to 16")	6	....	....	2	713
Chicopee road, south from Carew st.	6	....	....	513	
do. north from Liberty st	6	....	....	396	909
Chicopee Falls road, Ludlow, west from 30" main (see S. R.-9,075)	2	1,219	....	....	1,219
Chilson st., south from Sumner ave.	6	....	....	210	210
Church st.	6	....	....	905	905
Churchill st.	6	....	....	671	671
CIRCUIT MAIN, as follows:—					
North Section.					
In Sheldon st.;—from Birnie ave. (junction with 42" Little river supply main) to North Main st. (at Jefferson ave.)	36	....	....	722	
In Jefferson ave.;—from North Main st. to Chestnut (at Montmorenci)	36	....	....	1,346	
In Montmorenci st.;—from Chestnut to Massasoit	36	....	....	681	
In right of way;—from Massasoit st., crossing private property to Narragansett st.	36	....	....	298	
In Narragansett st.;—from right of way to Prospect st.	36	....	....	953	
In Prospect st.;—from Narragansett to Carew	36	....	....	516	
In Carew st.;—from Prospect easterly to 30" (formerly part of Ludlow 30" "Main No. 2")	36	....	....	427	
In Carew st.;—from 36" to "hill section" near Liberty (west),—(this portion changed in table from Ludlow "Main No. 2")	30	....	....	3,496	8,439

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Hill Section.					
In right of way;—from "north section" 30" in Carew st.,—near Liberty st. (west),—southerly to railroad under-pass at McKnight glen	30	....	....	3,585	
In McKnight glen;—from railroad under-pass to opposite private driveway to Ingersoll grove	30	....	....	487	
In private driveway;—from McKnight glen to Ingersoll grove	30	....	....	296	
In Ingersoll grove;—from private driveway to Worthington st. (at Thompson)	30	....	....	560	
In Thompson st.;—from Worthington to State (at Hancock)	30	....	....	2,289	
In Hancock st.;—from State to Lebanon	30	....	....	2,412	
In Hancock st.;—from Lebanon to Walnut	24	....	....	914	
In Walnut st.;—from Hancock to and crossing Hickory (at U. S. Watershops), thence in Mill st. to "Forest park section" at center of Mill river (at Allen st.)	24	....	....	1,870	12,413
Forest Park Section.					
In Allen st.;—from "hill section" 24" at center of Mill river to Oakland st.	24	....	....	243	
In Oakland st.;—from Allen to Belmont ave. (at Garfield st.)	24	....	....	3,416	
In Garfield st.;—from Belmont ave. to Forest Park ave.	24	....	....	1,626	
In Forest Park ave.;—from Garfield st. to Fort Pleasant ave	24	....	....	1,996	
In Leete ave.;—from Fort Pleasant ave. to Longhill st., thence crossing private property and Main st. to "lower section" in Pecousic ave. (near Main st.)	24	....	....	1,377	8,658
Lower Section.					
In Pecousic ave.;—from "Forest park section" 24",—(near Main st.),—to 36" *steel* pipe at Mill river crossing (south)	36	....	....	179	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
In Pecousic ave.;—from south side to north side of Mill river, crossing same under bed of stream and close to easterly side of bridge (*=riveted *steel* pipe embedded in concrete)	36	318*	....	....	
In Pecousic ave.;—from 36" *steel* pipe,—at Mill river crossing (north),—to Gardner st. (at Water)	36	....	....	1,848	
In Water st.;—from Gardner to Railroad st. (north line)	36	....	....	5,152	
In right of way;—from north line of Railroad st. (at Water), crossing B. & A. R. R. tracks and private property to south line of Cypress st. (opposite Boylston)	36	....	....	569	
In Cypress st.;—from Boylston to Fulton	36	....	....	153	
In Fulton st.;—from Cypress to north line of Plainfield (at Round hill)	36	....	....	3,620	
In Round hill;—from north line of Plainfield st. to south line of Arch st. (at Birnie ave.)	36	....	....	769	
In Birnie ave.;—from south line of Arch st. to "north section" at Sheldon st. (junction with 42" Little river supply main)	36	....	....	332	12,940
Summary.					
24" cast-iron pipe=11,442 feet.					
30" " "=13,125 "					
36" " "=17,565 "					
36" riveted steel* "= 318 "					
Total "Circuit" =42,450 feet.					
Clantoy st., Phoenix to Dupont place	6	....	....	1,169	1,169
Claremont st	6	....	....	526	526
Clarence st., at State (see S. R.-17,369A)	8	....	....	40	40
Clarendon st., Bay to St. James ave.	6	....	....	1,047	
do. St. James ave. to Worthington st.	2	295	....	....	
do. Worthington to Dartmouth ter.	6	....	....	670	2,012
Clark st	6	....	....	638	638
Clayton st., west from Plainfield	6	....	....	418	418
Cleveland st	6	....	....	1,080	1,080

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Clifford st	4	....	....	506	506
Clifton ave., south from Central st	4	....	....	504	504
Cliftwood st	6	....	....	449	449
Clinton st., Main to Fulton	6	....	....	820	820
Clyde st., west from Plainfield	6	....	....	995	995
Coleman st., Boston road to beyond Embury st	6	....	....	1,048	1,048
College st., Wilbraham road to State st.	8	....	....	566	
do. State to Acorn	6	....	....	2,072	2,638
Collins st	6	....	....	587	587
Colonial ave	6	....	....	856	856
Colton st., Wilbraham road to Beacon st.	6	....	....	1,689	1,689
Columbia terrace, north from Liberty st.	6	....	....	246	246
Commonwealth ave., Belmont to Walden st	8	....	....	446	
do. Walden st. to near Fairview (north)	6	....	....	1,500	1,946
Concord terrace	8	....	....	410	410
Congress st., Main to Chestnut	6	....	....	1,588	1,588
Continental st	6	....	....	459	459
Converse st., Sumner ave. to Vermont st	6	....	....	550	550
Cornell place, north from Cornell st.	1¼	106	....	....	106
Cornell st	6	....	....	1,829	1,829
Cortland st., State to Shattuck	6	....	....	798	798
County st	6	....	....	410	410
Court st., Main to 12" at Water	6	....	....	919	
do. from 6" to Water	12	....	....	35	
do. west from Main (parallel line)	8	....	....	300	1,254
Crane st.	6	....	....	303	303
Crest st., west from Lakeside ave	6	....	....	422	422
Crestwood st., Springfield to Rimmon ave	6	....	....	654	654
Crosby st., Walnut to near Hancock	2	365	....	....	365
Cross st., Main to Willow	12	....	....	360	
do. Willow to Maple	10	....	....	606	966
Crown st., east from White	6	....	....	232	232
Crystal ave	6	....	....	958	958
Cumberland st., east from North Main	8	....	....	382	382
Cypress court	4	....	....	368	368
Cypress st., Main to Fulton	6	....	....	656	
do. Main to Boylston	8	....	....	509	
do. Boylston to Fulton,—153 feet,—(see "Circuit Main," lower section)	36	....	....	——	1,165
Dale st., Union to William	6	....	....	401	
do. William to Winthrop	4	....	....	224	625

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought Iron	Cement-Lined	Cast-Iron	
Dartmouth st., Catharine to St. James ave	12	....	....	1,034	1,034
Dartmouth terrace, west from St. James ave	6	....	....	479	479
Davis st., Ludlow, south from Stebbins	1½	237	....	....	237
Dawes st	6	....	....	1,253	1,253
Dawson st	2	406	....	....	406
Daytona st	8	....	....	644	644
Demond ave	6	....	....	894	894
Denton circle	6	....	....	309	309
Denver st., south from Boston road	6	....	....	956	956
Dexter st	6	....	....	754	754
Dickinson st., Mill to Orange	16	....	....	175	
do. Orange to Oakland	8	....	....	1,863	
do. Oakland to Sumner ave	6	....	....	2,111	
do. at Sumner ave. (connecting)	6	....	....	23	
do. Oakland to Sumner ave	20	....	....	2,130	
do. Belmont ave. to Groveland	6	....	....	2,136	8,438
Division st., west from Plainfield	6	....	....	189	189
Donald st	6	....	....	507	507
Dorchester st	6	....	....	622	622
Dorne st., north from Smith	6	....	....	223	223
Douglas st	6	....	....	600	600
Dover st	6	....	....	849	849
Dresden st	6	....	....	802	802
Dunmoreland ave., south from Wilbraham road	8	....	....	610	610
Dupont place, west from Clantoy st. (see S. R.–12,766)	1¼	191	....	....	191
Duryea st., south from Page boulevard	6	....	....	442	442
Dwight st., State to Lyman (less 8" crossing sewer at Worthington, north)	10	....	....	2,397	
do. crossing sewer at Worthington (north)	8	....	....	28	
do. State to Bridge (parallel line)	6	....	....	1,572	3,997
Dymon st	6	....	....	549	549
Eagle st	6	....	....	613	613
Earl st., Johnson to Bloomfield	2	299	....	....	
do. Bloomfield to Orange	6	....	....	616	915
East Alvord ave., north from Sumner	8	....	....	521	521
East Court st	12	....	....	583	583
Eastern ave., in State st., at 24" main	8	....	....	21	
do. from gate at State st. 24" main to Tyler st	12	....	....	1,565	
do. Tyler st. to Pendleton ave	12	....	356	....	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Eastern ave., Pendleton to Hickory st.	8	....	....	2,835	4,777
East Hooker st., east from North Main	4	....	....	14	
do. east from 4"	6	....	....	636	650
Eddywoods ave	6	....	....	2,148	2,148
Edgeland ave., west from Fort Pleasant	6	....	....	490	490
Edgemont st., north from State	6	....	....	636	636
Edgewood st., Bay to Acorn	6	....	....	1,073	1,073
Edward st., I. O., Parker to Moore ave.	6	....	....	498	498
Edwards st., at Chestnut	6	....	....	20	
do. from 6" to Elliott	4	....	....	717	737
Eleanor road, west from White st	6	....	....	428	428
Elizabeth st., south from Berkshire ave. (for hydrant)	6	....	....	42	
do. south from 6"	1½	290	....	....	332
Elliott st	6	....	....	1,059	1,059
Elm st., Main to 8" at Water (east)	6	....	....	958	
do. at Water (east)	8	....	....	15	
do. Water to beyond railroad	6	....	....	311	
do. west from 6" (beyond railroad)	2	45	....	....	
do. west from Main (parallel line)	8	....	....	302	1,631
Elmwood st., at Main	8	....	....	8	
do. west from 8" at Main	6	....	....	804	
do. from 6" to Hanover	8	....	....	163	975
Emery st. } parallel lines	6	....	....	664	
do. }	8	....	....	735	1,399
Emily st., north from Switzer avenue	6	....	....	409	409
Erie st., west from Chicopee road	6	....	....	408	408
Essex st	10	....	....	1,662	1,662
Essex st., I. O., Myrtle to Pine	8	....	....	1,409	1,409
Euclid ave., Belmont to Dickinson st.	6	....	....	1,204	
do (extension) north from Dickinson	6	....	....	288	1,492
Everett st., Chestnut to near Cass	6	....	....	1,178	
do. from 6" to Cass	4	....	....	50	
do. east from Cass	4	....	....	302	1,530
Fairbanks place, north from Worthington st	4	....	....	281	281
Fairfield st., north from Garfield	6	....	....	939	939
Fairmount st., east from Commonwealth ave. (see S. R.-14,100-16,937)	1½	241	....	....	241
Fairview st., east from Groveland	6	....	....	96	96
Falmouth ave., I.O., west from Parker st.	6	....	....	446	446
Farnsworth st., east from Hamburg	6	....	....	1,342	1,342
Federal st., State to Armory	16	....	....	998	
do. Armory to Summer	8	....	....	1,500	2,498
Ferry st., east from Main	6	....	....	669	
do. from 6" to Chestnut	8	....	....	863	1,532

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Firglade ave., Sumner to near Washington boulevard	6	....	....	1,495	1,495
First st. (East Springfield.)	6	....	....	654	654
Fisk ave., Wason to 12" Grace st. line	12	....	....	760	
do. from 12" Grace st. line to Rowland st	8	....	....	983	1,743
Five mile pond pumping station:—					
Suction for small pump	10	....	....	6	
Suction for small pump (balance left in)	12	....	....	28	
Discharge for small pump	12	....	....	38	
Suction for large pump	20	....	....	293	
Discharge for large pump	12	....	....	15	
Discharge line, connecting pumps with Ludlow Main No. 1	16	....	....	2,755	
For fire hydrant at pump house	4	....	....	25	3,160
Florence st., Pine to Hancock	10	....	....	1,634	
do. Hancock to Walnut	8	....	....	343	1,977
Florentine gardens	6	....	....	594	594
Florida st., Bay to 6" cast iron at Worthington (south)	6	....	1,509	....	
do. at Worthington (south)	6	....	....	14	
do. Worthington to Ingersoll g've	6	....	....	851	2,374
Forest park, from Sumner ave. (P) (S. R.–9,099)	6	....	....	2,610	
do. for hydrants (P) (S. R.–9,099)	4	....	....	30	
do. in Greeting ave. (city pipe) (see S. R.–13,555)	6	....	....	238	2,878
Forest Park ave., Fort Pleasant to Sumner	6	....	....	2,613	
do. Sumner to Pineywoods	6	....	....	854	
do. Fort Pleasant to Garfield st., —1,996 feet,—(see "Circuit Main," Forest park section)	24	....	....	——	3,467
Forest st	6	....	....	846	846
Fort st	6	....	....	728	
do. west from Main (P) (S.R.–6,490)	4	....	....	76	804
Fort Pleasant ave., Mill st. to junction Belmont ave	12	....	....	166	
do. Belmont to Sumner	8	....	....	2,752	2,918
Foster st	6	....	....	792	792
Franklin st., Main to Chestnut	8	....	....	1,619	
do. Main to Cass	6	....	....	3,050	
do. east from Cass (see S. R.–15,681)	8	....	....	75	
do. east from Cass (P) (S. R.–6,651)	1½	128	....	....	
do. west from Webster (see S. R.–13,954)	6	....	....	140	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Franklin st., west from 6" (see S. R.–19,187)	1¼	40	....	....	
do. east from Webster	6	....	....	7	
do. east from 6"	8	....	....	148	
do. from 8" to Genesee	2	949	....	....	6,156
Fremont st	6	....	....	818	818
Fresno st., south from Page boulevard	6	....	....	432	432
Front st., I. O., west from Oak	8	....	....	585	585
Fullerton st., northerly from Berkshire ave. (P) (S. R.–17,656)	1¼	666	....	....	666
Fulton st., Cypress to Plainfield	6	....	....	3,535	
do. Cypress to Plainfield (north line), —3,620 feet,—(see "Circuit Main," lower section)	36	....	....	——	3,535
Gardner ave., Walker st. to Gardner	8	....	....	314	314
Gardner st., Main to Hanover	10	....	....	1,170	1,170
Garfield st., Forest Park ave. to near schoolhouse	6	....	....	1,281	
do. Forest Park ave. to Belmont ave.,—1,626 feet,—(see "Circuit Main," Forest park section)	24	....	....	——	1,281
Genesee st., at Liberty (for hydrant only)	6	....	....	34	
do. Liberty to Franklin	2	323	....	....	
do. at Franklin (north)	1¼	38	....	....	
do. north from 1¼"	6	....	....	194	589
George st	16	....	....	598	598
Gillett st., east from Crane	6	....	....	245	245
Girard ave., Bay st. to McKnight	6	....	....	969	969
Gladwood ave	6	....	....	492	492
Gold st., east from Armory	6	....	....	292	292
Goldenrod st., south from Bay	6	....	....	277	277
Goodrich st., north from Liberty	6	....	....	278	278
Gordon st	6	....	....	592	592
Governor st., Armory to opposite No. 90	6	....	....	923	923
Grace st., North Main to Birnie ave	12	....	....	418	
do. Birnie ave., crossing to Fisk	12	....	....	390	808
Grand st., White to Malden	6	....	....	812	812
Grant st	4	....	....	602	602
Granville st	6	....	....	545	545
Gray's ave	6	....	....	591	591
Greenacre sq	6	....	....	433	
do. north from northeast angle (see S. R.–19,036)	1¼	77	....	....	510
Greenbrier st., Blaine to Trillium	6	....	....	317	317

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Green lane, circuit from Rimmon ave. and return	6	....	....	1,117	1,117
Greene st.	6	....	....	1,380	1,380
Greene st. ave., north from Greene st.	2	201	....	....	201
Greenleaf st.	6	....	....	666	666
Greenwich st.	6	....	....	706	706
Greenwood st., east from Main	6	....	....	1,275	
do. from 6" to Chestnut	4	....	....	340	1,615
Grenada terrace	6	....	....	1,156	1,156
Grosvenor st.	6	....	....	771	771
Grove st., North Main to East Hooker.	6	....	....	553	
do. at North Main (looking west)	6	....	....	16	569
Groveland st., east from Dickinson	6	....	....	519	
do. east from 6"	2	137	....	....	656
Grover st.	6	....	..	1,380	1,380
Gunn square (north roadway), Northampton ave. to Westford	6	....	....	291	
do. (south roadway) east from Northampton ave	1¼	142	....	....	433
Hall st.	6	....	....	1,029	1,029
Hamburg st., Springfield to Van Ness ave	6	....	....	1,045	1,045
Hampden st.	8	....	....	697	697
Hampden st., I. O., Holly to Chestnut (east)	6	....	....	637	
do. Chestnut (east) to Myrtle	4	....	706	....	
do. Myrtle to 6" near Oak	4	....	....	689	
do. from 4" to Oak	6	....	....	35	
do. Oak to Pine	6	....	....	543	2,610
Hampshire st., I. O.	4	....	....	1,737	1,737
Hancock st., State to Lebanon,—2,412 feet,—(see "Circuit Main," hill section)	30	....	....	——	
do. Lebanon to Walnut,—914 feet,—(see "Circuit Main," hill section)	24	....	....	——	
do. State to Alden (parallel line)	4	....	....	3,163	
do. Walnut to Central	6	....	....	1,542	
do. at Central (south)	8	....	....	3	
do. south from 8" (at Central)	4	....	....	225	
do. from 4" to Mill st.	6	....	....	802	5,735
Hanover st., Gardner to York	8	....	....	800	800
Harriet st.	6	....	....	856	856
Harris road, Ludlow, north from North st.	6	....	....	1,763	1,763
Harrison ave., Main st. to Chestnut	12	....	....	898	
do. Main st. to Dwight (parallel line)	6	....	....	649	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Harrison ave., east from Main st. (for hydrant only)	6	....	....	25	
do. west from Dwight st. (short line)	6	....	....	173	1,745
Harvard st.	6	....	....	1,654	1,654
Harvey st.	4	....	....	1,581	1,581
Hawley st., south from State	8	....	....	54	
do. from 8" to Monroe	6	....	461	....	515
Hawthorne st., at Spruce	6	....	....	13	
do. from 6" at Spruce to Hancock	4	....	....	554	567
Hayden ave., at State st	6	....	....	13	
do. north from 6"	4	....	....	1,084	1,097
Healey ave., I. O., Worcester st. to 387 feet south of South st	6	....	....	1,376	1,376
Hebron st.	6	....	....	730	730
Herman st., north from Sumner ave.	6	....	....	39	39
Heywood st., south from Liberty (P) (S. R.–6,720)	6	....	....	257	257
Hiawatha st., east from Whittier ave.	6	....	....	327	327
Hickory st., east from Central	2	488	....	....	
do. Walnut st. main (24" circuit) to Walnut st. east line	8	....	....	159	
do. Walnut st. east line to hydrant opposite International Y. M. C. A. Training school	4	....	....	2,292	
do. from 4" to Alden	8	....	....	319	
do. Alden to Woodbine ave	4	....	....	546	
do. at Woodbine ave. (east)	4	....	....	11	
do. east from 4" at Woodbine ave.	3	799	....	....	
do. from 3" to Carlisle branch (east) (see S. R.–11,027)	1½	1,501	....	....	
do. east from 1¼" (see S. R.–11,028)	1	13	....	....	
do. south from Wilbraham road (see S. R.–12,284–12,285)	1¼	235	....	....	6,363
High st., Maple to School	6	....	....	810	
do. School to near Walnut	8	....	....	1,803	
do. from 8" to Walnut	6	....	44	....	2,657
Highland st., west from Lakeside ave.	6	....	....	378	
do. west from 6" main (see S. R.–19,313)	1¼	61	....	....	439
Highland terrace, Long st. to Jennette ave.	10	....	....	2,141	2,141
Hillman st.	8	....	....	708	708
Hillside place (P) (S. R.–8,946)	2	120	....	....	120
Hobson st., at Berkshire ave	8	....	....	46	
do. south from 8"	6	....	....	569	615
Holly st., I. O., Worcester to Hampden	6	....	....	395	
do. south from Hampden	6	....	....	153	548

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	Length in Feet			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Hollywood st., east from Dickinson	6	....	....	22	
do. east from 6"	1½	111	....	....	
do. Commonwealth ave. to Belmont	8	....	....	574	707
Holyoke st.	6	....	....	892	892
Home st., west from Liberty	6	....	....	694	694
Homer st.	6	....	....	653	653
Homestead ave., I. O., south from Berkshire	8	....	....	1,160	1,160
Hooker st., west from North Main	6	....	....	14	
do. west from city's 6" (P) (S. R.–13,062–13,706)	6	....	....	888	902
Horace st., north from Dickinson	6	....	....	166	166
Howard court, south from Howard st. (see S. R.–8,662)	1½	212	....	....	212
Howard place, south from Howard st.	4	....	....	160	160
Howard st., Main to Water	6	....	....	984	
do. west from Water	8	....	....	444	1,428
Howard st., Ludlow, east from North (P) (S. R.–5,629)	1½	392	....	....	392
Howes st., south from Sumner ave.	6	....	....	276	276
Hubbard ave.	6	....	....	595	595
Hunt terrace, north from Allen st.	4	....	....	236	
do. north from 4"	1½	108	....	....	344
Hunter place	6	....	....	660	660
Huntington st.	6	....	....	707	707
Hyde ave., Plainfield st. to 4" at Fisk ave	6	....	....	951	
do. at Fisk ave	4	....	....	7	958
Hydrants, sundry streets	4	....	....	4,990	
do. sundry streets	6	....	....	6,721	
do. sundry streets	8	....	....	631	
do. Hooker st. (P) (S. R.–13,062–13,706)	6	....	....	34	12,376
Indian Leap st., I. O., north from Main	6	....	....	424	424
Ingersoll grove, Worthington st. to private driveway to McKnight glen, 560 feet (see "Circuit Main," hill section)	30	....	....	----	
do. glen driveway to Bowdoin st.	6	....	....	851	851
Ingraham ave., at High st. (hydrant only)	6	....	....	30	
do. at Union st. (hydrant only)	6	....	....	27	57
Ionia st., north from State	6	....	....	699	699
Irvington st., south from Sumner ave.	6	....	....	759	759
James st.	4	....	....	964	964

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought Iron	Cement-Lined	Cast-Iron	
Jasper st.	6	....	....	1,082	1,082
Jefferson ave., at North Main st.	8	....	....	18	
do. from 8″ to North st.	12	....	....	848	
do. at North Main st. } parallel line	12	....	....	15	
do. from 12″ to North st. } parallel line	6	....	....	835	
do. North st. to Chestnut.	4	....	....	512	
do. North Main st. to Chestnut, 1,346 feet (see "Circuit Main," north section)	36	....	....	——	2,228
Jennette ave., southwest from Highland terrace.	12	....	....	651	651
John st., west from Plainfield.	4	....	....	259	
do. from 4″ to Fulton.	6	....	....	418	677
Johnson st.	6	....	....	1,899	1,899
Joy st., Ludlow, west from North st. to Joy ave.	4	....	....	600	600
Joy ave., Joy st. to Ludlow Main No. 1	2	244	....	....	
do. north from 2″, at Joy st.	1¼	115	....	....	359
Keith st.	6	....	....	1,126	1,126
Kensington ave., Oakland st. to Ranney.	6	....	....	1,424	1,424
Kenwood park.	6	....	....	835	835
Kenwood terrace.	6	....	....	628	628
Kibbe ave.	8	....	....	240	240
King st., Walnut to 8″ at Hancock (west).	4	....	....	952	
do. at Hancock (west).	8	....	....	30	
do. at Hancock (east).	8	....	....	7	
do. from 8″ at Hancock (east) to Logan.	6	....	....	1,886	
do. Logan to Wilbraham ave.	8	....	....	313	
do. Wilbraham ave. to Westford.	6	....	....	523	3,711
Knox st.	6	....	....	1,189	1,189
Ladd st.	6	....	....	565	565
Lafayette st.	6	....	....	622	622
Lakeside ave., Wilbraham road to Highland st.	6	....	....	702	702
Langdon st.	6	....	....	938	938
Laurel st., west from Plainfield.	6	....	....	674	674
Law st, I. O., south from Falmouth ave.	6	....	....	180	
do. north from Falmouth ave.	2	227	....	....	407
Lawndale st., south from Belmont ave.	6	....	....	248	248
Lebanon place, south from King st. (P) (S. R.–5,016).	1¼	336	....	....	336
Lebanon st., Walnut to Hancock.	16	....	....	627	
do. at Hancock (east).	16	....	....	4	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Lebanon st., from 16" at Hancock (east) to Eastern ave.	6	....	....	1,376	2,007
Ledyard st., Liberty to Armory	6	....	....	610	610
Leete ave., Fort Pleasant to Longhill st., thence, etc.–1,377 feet—(see "Circuit Main," Forest Park section)	24	....	....	——	
Lenox st.	6	....	....	449	449
Lester st., north from Sumner ave	6	....	....	526	
do. north from 6" (P) (S. R.–15,610 —20,158)	1	33	....	....	559
Lexington ave.	6	....	....	668	668
Leyfred terrace, north from Belmont ave.	6	....	....	598	598
Liberty st., Main to 8" (opposite Hawkins foundry)	6	....	....	2,000	
do. from 6" (opposite Hawkins foundry) to Heywood	8	....	....	2,069	
do. Heywood to Carew	8	....	....	4,206	
do. Carew to beyond Chicopee road	8	....	....	2,019	
do. east from near Main (parallel line)	6	....	....	1,130	
do. from 6" to near Chestnut (parallel line)	4	....	....	222	11,646
Lillian st., at Oak	6	....	....	14	
do. from 6" to Orleans	4	....	....	404	418
Lincoln st.	6	....	....	848	848
Linden st.	6	....	....	1,336	1,336
Litchfield st.	6	....	....	426	426
LITTLE RIVER SUPPLY, as follows:—(*=*lock-bar steel pipe*);—					
Diversion dam to tunnel	36	....	....	25	
	54	717*	....	....	
(Tunnel=6'-3" high x 5'-0" wide x 4,526' long)					
Tunnel to sedimentation basin	54	1,134*	....	....	
	36	....	....	53	
	42	318*	....	....	
Sedimentation basin to filters	42	264*	....	....	
	36	....	....	176	
	30	....	....	316	
	24	....	....	61	
	20	....	....	114	
	16	....	....	61	
Filters to regulating house	24	....	....	616	
	20	....	....	411	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET: Wrought-Iron	Cement-Lined	Cast-Iron	Total in Feet
Regulating house to Provin mountain reservoir	42	39,040*	....	....	
	36	....	....	46	
At Provin mountain reservoir	36	....	....	146	
	42	....	....	93	
Provin mountain reservoir to Connecticut river	42	22,170*	....	....	
	42	....	....	43	
Connecticut river crossing, South line	42	....	....	24	
	30	....	....	20	
	30	1,061*	....	....	
	30	....	....	20	
	42	....	....	24	
Connecticut river crossing, North line	30	....	....	30	
	30	1,102*	....	....	
	30	....	....	30	
Connecticut river to Birnie ave. (in Orchard st. and right of way)	42	....	....	2,070	70,185
Total Steel Pipe....=65,806 feet* / *Total Cast-Iron Pipe= 4,379 feet*					
Locust st., Main to Mill	12	....	....	745	745
Logan st., King to Alden	8	....	....	1,217	1,217
Lombard st., Main to 8″ at Water	4	....	....	645	
do. at Water	8	....	....	15	660
Longfellow terrace, east from Whittier ave	6	....	....	330	330
Longhill st., Main to Cherryvale ave	8	....	....	2,772	
do. Cherryvale ave. to Main st. (opposite E. H. Barney's house)	6	....	....	2,275	5,047
Loon pond pumping station:— Suction pipe	10	....	....	84	
Discharge pipe, connecting pump with Oak st., I. O., main	10	....	....	752	836
Loring st., Main to Water	8	....	....	779	779
Los Angeles ave., east from Hamburg st.	6	....	....	503	503
Lowell st	6	....	....	1,366	1,366
LUDLOW SUPPLY, as follows:—					
Main No. 1.					
From gatehouse to Higher brook as follows:—Crossing highway, thence near and southerly of same through private property, thence recrossing highway and northerly of same through private property to highway at brook	24	....	....	3,736	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Higher brook to Federal st. as follows:—Following highway to near Ludlow village, thence westerly, north of Athol branch of B. & A. R. R.—crossing over Chicopee river at "Indian Leap";—thence under tracks of railroad, and south of same to Main st., I. O., just east of Cedar st.;—thence in Main st., I. O., westerly to Myrtle; in Myrtle st. southerly to Berkshire; in Berkshire ave. (Indian Orchard road) to State st.; and in State st. to near Westminster—(less 215 feet *cast-iron* under tracks of B. & A. R. R., 1,462 feet *cast-iron* in State st. from N. Y., N. H. & H. R. R. to near Oak Grove ave., and 1,069 feet of *cast-iron* at Hampden R. R. in Ludlow; as below)	24	....	47,115	....	
Near Oak Grove ave. to N. Y., N. H. & H. R. R.	24	....	....	1,462	
Near Westminster to Thompson, 490 feet (see State st.)	24	....	....	——	
Thompson to Federal, 2,324 feet (see State st.)	20	....	....	——	
Federal to Spring (east), 1,778 feet (see State st.)	20	....	....	——	
Spring (east) to Main, 1,986 feet (see State st.)	16	....	....	——	
At Hampden R. R., Ludlow	24	....	....	1,069	
Under Athol branch tracks of B. & A. R. R. (at Indian Orchard)	24	....	....	135	
Under main tracks of B. & A. R. R. (at dry bridge in Indian Orchard road)	24	....	....	80	53,597
(NOTE:—Actual total length of Main No. 1 *to Main st.* is 60,175 feet, or 2,685 feet *more* than Main No. 2.)					
Main No. 2.					
From gatehouse, through dam	30	....	....	120	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
From dam to intersection of Main No. 1 as follows:—Crossing highway thence southerly of same and of Main No. 1, through private property to point of intersection in highway, about midway Ludlow center and Ludlow village	36	....	....	13,388	
From intersection of Main No. 1 to 24" (in Carew st.) as follows:—Crossing highway at point of intersection, thence northerly of Main No. 1, through private property to Chicopee river, just below and west of Indian Orchard, and crossing same under bed of stream; thence through private property including Page boulevard, to Carew st., just west of St. James ave., and thence in Carew st. to junction of north and hill sections of "Circuit Main" near Liberty st. (west)	30	....	....	36,403	
From near Liberty st. (west)—(in Carew st.)—to 36", near Prospect st., 3,496 feet (see "Circuit Main," north section)	30	....	....	—	
From 30" (in Carew st.) to Prospect st., 427 feet (see "Circuit Main," north section)	36	....	....	—	
From Prospect st. (in Carew st.) to Chestnut st.	24	....	....	1,984	
From Chestnut st. (in Carew st.) to Main st.	20	....	....	1,672	53,567
(NOTE:—Actual total length of Main No. 2 *to Main st.* is 57,490 feet, or 2,685 feet *less* than Main No. 1.)					
At Reservoir.					
From distributing canal to cut-off basin	36	....	....	36	
Under cut-off dam	36	....	....	132	
At Cherry Valley drain gate	20	....	....	36	204

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
At Chicopee River.					
Auxiliary main for possible future use, laid across and under bed of stream, west of and parallel to Main No. 2—not connected at either end	30	....	....	300	300
Lyman st., Main to Dwight	6	....	....	850	
do. Dwight to Chestnut	8	....	....	475	
do. Chestnut to Spring	6	....	....	768	
do. Main to Chestnut (parallel line)	8	....	....	1,369	3,462
Lyndale st.	8	....	....	1,101	1,101
Lyons st., I. O., south from Main	6	....	....	897	
do. south from 6" (P) (S. R.–18,587)	1¼	46	....	....	
do. Main to Quebec	6	....	....	226	1,169
Madison ave., north from Central st.	6	....	....	556	556
Magazine st., Grant to Armory	4	....	....	582	582
Magnolia terrace	6	....	....	1,544	1,544
Main st., Carew to State	16	....	....	5,199	
do. State to Locust	12	....	....	4,112	
do. Locust to Mill	10	....	....	771	
do. Mill to 24" circuit	12	....	....	983	
do. south from 24" circuit	8	....	....	1,078	
do. south from 8"	6	....	....	355	
do. south from 6" (opposite South End bridge)	1¼	133	....	....	
do. Longhill st. (opposite E. H. Barney's house) to Pecousic brook	6	....	....	508	
do. Hampden to Central (parallel line)	12	....	....	4,340	17,479
Main st., I. O., west from Myrtle	8	....	....	510	
do. Myrtle to beyond Cedar (see Ludlow supply, "Main No. 1.")	24	....	——	....	
do. at 24" main (east)	8	....	....	24	
do. from 8" at 24" main (east) to Wilbraham line	6	....	....	3,930	
do. (between Cedar and Lyons sts.), by-pass from 6" to 24" Main No. 1	6	....	....	40	4,504
MAIN SUPPLY PIPES—(see "Ludlow supply," and "Little river supply")	——	——	——	——	
Malden st.	6	....	....	1,503	1,503

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Manhattan st.	6	....	....	1,135	1,135
Mansfield st., east from White.	6	....	....	477	477
Maple court.	6	....	....	742	742
Maple st., Stockbridge to Union.	6	....	....	837	
do. Union to Central.	8	..	....	1,102	
do. Central to Pine.	10	....	....	1,912	
do. east from Pine.	4	....	....	69	
do. from 4″ cast-iron near Pine (east) to George.	2	397	....	....	
do. George to Mill.	16	....	....	511	
do. Park to Central (parallel line).	6	....	....	1,278	6,106
Maple st., (Upper) Ludlow, east from Harris road.	6	....	....	432	
do. east from Mero (see S.R.–11,033)	1	61	....	....	493
Mapledell st., at State.	8	....	....	15	
do. from 8″ to Burr	6	....	....	997	1,012
Maplewood terrace (north roadway).	6	....	....	1,380	1,380
Marble st.	8	....	....	1,084	1,084
Marengo park.	6	....	....	1,373	
do. south side of park.	2	590	....	....	1,963
Margaret st., Main to Water.	6	....	....	885	
do. at Water (west).	8	....	....	36	
do. west from 8″ at Water (west).	6	....	....	502	1,423
Margerie st., north from State (P) (S. R.–17,354A).	1¼	340	....	....	
do. at State (hydrant only).	6	....	....	19	359
Marion st.	6	....	....	1,382	1,382
Market st., State to Harrison ave.	6	....	....	1,028	
do. State to Sanford (parallel line).	6	....	....	315	1,343
Marlborough st., east from Norfolk.	1¼	86	....	....	86
Marshall place, Walnut st. to Melrose ct.	6	....	....	410	410
Mason place, south from Dickinson st.	6	....	....	589	589
Mason st.	6	....	....	681	681
Massachusetts ave., south from Wilbraham road.	6	....	....	339	
do. from 6″ to 140 feet south of Westford circle.	8	....	....	1,404	1,743
Massasoit place.	6	....	....	408	408
Massasoit st., Carew to Montmorenci.	6	....	....	1,931	
do. north from Montmorenci.	6	....	....	147	
do. Chapin terrace to Pratt st.	6	....	....	346	2,424
Mattoon st., Chestnut to Salem (at turn)	6	....	....	593	593
Maycourt st., at Carew (for hydrant only).	6	....	....	53	53
Maynard st., south from Shattuck.	6	....	....	785	
do. south from Acorn.	6	....	....	508	1,293

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
McKnight glen, railroad under-pass to glen driveway (to Ingersoll grove), 487 feet (see "Circuit Main," hill section)	30	....	....	——	
do. in glen driveway to Ingersoll grove, 296 feet (see "Circuit Main," hill section)	30	....	....	——	
McKnight st., Sherman to Bowles	4	....	....	514	
do. Bowles to Girard ave	6	....	....	428	942
Mechanic st., Water to railroad	6	....	....	440	440
Mechanics row, south from Bliss st	2	69	....	....	69
Medford st	6	....	....	685	685
Melrose ct	6	....	....	582	582
Melrose st	6	....	....	1,030	1,030
Mero st., Ludlow, east from Harris road	6	....	....	489	489
Merrick ave	6	....	....	373	373
Merwin st	6	....	....	750	750
Middlesex st., south from Wilbraham road	6	....	....	623	623
Mill st., Hickory to Mill river (at U. S. Watershops) (included in "Circuit Main," hill section)	24	....	....	——	
do. from "Circuit Main" 24" (at U. S. Watershops) to Central st.	8	....	.. .	229	
do. Central to Chester	6	....	....	1,070	
do. Chester to Hancock	8	....	....	237	
do. Hancock to Dickinson	10	....	....	623	
do. Dickinson to Maple	16	....	....	940	
do. Maple to Pine	8	....	....	850	
do. Pine to Locust	16	....	....	992	
do. Locust to Main	12	....	....	617	5,558
Miller st., east from Armory	6	....	....	957	957
Milton st., I. O., south from Main	6	....	....	699	
do. south from 6" (P) (S. R.–10,779 and 10,780)	1½	203	....	....	902
Monmouth st., Berkeley to Yale	6	....	....	479	
do. Yale to Dorchester	4	....	....	682	1,161
Monroe st., at Hancock (east)	8	....	....	7	
do. from 8" to Colton	6	....	....	1,691	1,698
Monrovia st., south from Page boulevard	8	....	....	308	308
Monson ave., north from Greene st	2	212	....	....	212
Montmorenci st	6	....	....	691	
do. 681 feet (see "Circuit Main," north section)	36	....	. ..	——	691
Montrose st., at State	8	....	....	24	
do. from 8" to Burr	6	....	....	982	1,006

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Moore ave., west from Plainfield st....	6	....	....	663	663
Moore ave., I. O., Briggs st. to south of Edward	6	....	....	290	
do. south from 6" (P) (S. R.–19,865)	1	98	....	....	388
Mooreland ave, at Carew st	8	....	....	12	
do. north from 8"	6	....	....	1,485	1,497
Morell st., north from Carew (P) (S.R.–19,881)	2	233	....	....	233
Morgan st, east from North Main	6	....	....	178	
do. east from 6"	4	....	....	63	
do. from 4" to near North	6	....	....	574	
do. from above 6" to 6" at North	4	....	....	57	
do. at North	6	....	....	33	
do. east from North Main (hydrant only)	6	....	....	21	926
Morris st., east from Main	6	....	....	746	
do. from 6" to Central	8	....	....	318	1,064
Mountainview st	6	....	....	739	739
Mulberry st., Maple to School	6	....	....	693	
do. School to Union	8	....	....	1,371	2,064
Murray Hill ave., Liberty st. to 1" at Franklin	6	....	....	651	
do. at Franklin st. (connecting)	1	15	....	....	666
Myrtle st., at State	6	....	....	24	
do. from 6" at State to High	4	....	....	535	559
Myrtle st., I. O., Main to Berkshire (see Ludlow supply, "Main No. 1")	24	....	——	....	
do. Berkshire to Essex	8	....	....	628	628
Napier st., east from Armory	8	....	....	625	625
Narragansett st., northerly from Prospect, 953 feet (see "Circuit Main," north section)	36	....	....	——	
Nelson ave., King st. to 1" at Lebanon	2	362	....	....	
do. at Lebanon st. (north)	1	17	....	....	
do. Lebanon st. to Greene	2	411	....	....	790
New st., west from Dwight	6	....	....	176	
do. west from Dwight (parallel line)	2	180	....	....	
do. north from East Court	6	....	....	23	379
Newbury st., Carew to Sherman ave.	6	....	....	989	989
Newland st., west from Plainfield	6	....	....	1,192	1,192
Noel st., west from Oakland	6	....	....	819	
do. south from Mill	6	....	....	295	1,114
Norfolk st., south from Wilbraham road	6	....	....	1,343	
do. south from 6"	1¼	38	....	....	1,381
North st., Liberty to Carew	10	....	....	2,297	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
North st., Carew to near north line of Jefferson ave.	10	....	....	2,055	
do. from near north line of Jefferson ave. to Harriet st.	6	....	....	1,272	5,624
Northampton ave., Wilbraham road to King st.	6	....	....	2,156	2,156
North Church ave., Symonds to Broadway	4	....	....	276	276
North Main st., Carew to Grace	16	....	....	5,401	
do. Grace to near Chicopee line	12	....	....	1,726	7,127
Norwood st., at Main	8	....	....	44	
do. from 8″ to Hanover	6	....	....	1,023	
do. at Pecousic ave. (for by-pass)	6	....	....	34	1,101
Nursery st., at Franklin (south)	2	9	....	....	
do. south from 2″	6	....	....	155	164
Oak st., State to Tyler	8	....	....	1,257	
do. Tyler to Walnut	10	....	....	195	1,452
Oak st., I. O., Water to Main	8	....	....	405	
do. at Main (for by-pass)	6	....	....	36	
do. Main to Hampshire	6	....	....	1,359	
do. Hampshire to Old Bay road	4	....	....	1,303	
do. Old Bay road to High st	6	....	....	721	
do. High st. south to opp. No. 340	8	....	....	827	
do. from opposite No. 340 south and east to Parker	6	....	....	2,330	6,981
Oak Grove ave., at State st	8	....	....	12	
do. from 8″ to Shattuck st	6	....	....	803	
do. Center st. to Bay	8	....	....	1,941	2,756
Oak Grove Park roadway, Center st. to Oak Grove ave.	2	252	....	....	252
Oakland st., Sumner ave. to Belmont	6	....	....	844	
do. Belmont ave. to Allen st. (less 98 feet at Dickinson st. and 76 feet at Allen st. = no 6″ pipe)	6	....	....	3,261	
do. Belmont ave. to Allen st, 3,416 feet (see "Circuit Main," Forest park section)	24	....	....	——	4,105
Old Bay road, I. O., Pasco st. to Oak	8	....	....	259	259
Olive st.	6	....	....	545	545
Orange st., Oakland to Allen	6	....	....	2,589	
do. at Oakland (connecting)	16	....	....	6	2,595
Orchard st. (connected to 42″ at river)	6	....	....	1,422	
do. (see "Little river supply")	42	....	....	——	1,422
Orchard st., I. O., south from South	6	....	....	485	485
Orlando st.	6	....	....	791	791
Orleans court, at Oak st	2	14	....	....	
do. from 2″ to 1½″	1½	225	....	....	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Orleans court, from 1¼" to Orleans st. (P) (S. R.–7,871–8,111)	1¼	182	....	....	421
Orleans st., at State	8	....	....	64	
do. from 8" to Union	4	....	....	687	
do. Union to Pendleton ave	6	....	....	856	1,607
Ormond st., north from Belmont ave	6	....	....	21	
do. from 6" to Sumner ave	1¼	398	....	....	419
Osgood st	8	....	....	954	
do. east from N. Main (hydrant only)	6	....	....	21	975
Oxford st	6	....	....	664	664
Ozark st., Orange to Grand	6	....	....	617	617
Page boulevard, from near Jennett ave. northerly (see Highland ter.)	10	....	....	——	
do. from Highland ter. easterly (see Ludlow Main No. 2)	30	....	....	——	
Palm st., south from Orange	6	....	....	242	242
Palmer ave., east from Locust st	6	....	....	307	
do. east from 6" (P) (S. R.–5,695)	2	678	....	....	985
Park st., Main to Willow	8	....	....	368	
do. Willow to Maple	6	....	....	776	1,144
Parker st., I. O., Main to Oak	6	....	....	3,677	
do. south from Oak	4	....	....	920	
do. from 4" to Boston road	6	....	....	1,385	5,982
Parkside ave	6	....	....	1,428	1,428
Parkwood st., south from Sumner ave	6	....	....	434	
do. south from 6" (see S. R.–13,330)	1	21	....	....	455
Pasadena st	6	....	....	1,333	1,333
Pasco st., I. O., Essex to Old Bay road	6	....	....	1,118	
do. south from Bay road (P) (S. R.–19,367)	1	380	....	....	1,498
Patton st., east from Main	4	....	....	814	
do. from 4" to Chestnut	6	....	....	863	
do. east from Main (hydrant only)	6	....	....	16	1,693
Peabody lane, Main st. to Willow	2	364	....	....	364
Pearl st., Chestnut to Byers	6	....	....	1,351	
do. Byers to Federal	10	....	....	2,116	3,467
Pearl st. place, north from Pearl st.	6	....	....	269	
do. south from Pearl (P) (S. R.–8,496)	1¼	142	....	....	411
Pease st., Catharine to Bowles	2	231	....	....	
do. Mason to Marion	6	....	....	68	299
Pecousic ave., Gardner st. (at Water) to 36" *steel* pipe at Mill river crossing (north), 1,848 feet (see "Circuit Main," lower section)	36	....	....	——	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Pecousic ave., from north side to south side of Mill river, crossing same under bed of stream and close to easterly side of bridge, 318 feet of *steel** pipe (see "Circuit Main," lower section)	36	——*	....	....	
do. from 36" *steel* pipe, at Mill river crossing (south), to "Circuit Main" 24" cast-iron (near Main st.,)—179 feet (see "Circuit Main," lower section)	36	....	....	——	
Penacook ave., north from Carew st. (P) (S. R.–10,178)	1½	387	....	....	
do. Wait st. to Langdon	6	....	....	98	485
Pendleton ave., Walnut st. to 8" cast-iron at Hancock (west)	8	....	1,252	....	
do. at Hancock st. (west)	8	....	....	31	
do. at Hancock st. (east)	8	....	....	7	
do. from 8" at Hancock st. (east) to Eastern ave	6	....	....	1,382	2,672
Pequot st., I. O., west from Lyons	6	....	....	207	207
Phoenix st., Liberty to Cherrelyn ave. (east)	6	....	....	494	
do. Cherrelyn ave. (east) to 30" "Circuit Main"	8	....	....	118	612
Pine st., Walnut to Cedar (16" cross)	6	....	....	1,679	
do. Cedar (16" cross) to George (16" y)	16	....	....	1,480	
do. George (16" y) to Mill (8" gate, east)	16	....	....	1,425	4,584
Pine st., I. O., Main to beyond Chapman Valve Mfg. Co.'s shop	6	....	....	1,782	1,782
Pine st. court	2	370	....	....	370
Pineywoods ave., Washington boulevard to Forest Park ave	6	....	....	2,113	2,113
Plainfield st., north from Bradford	6	....	....	17	
do. from 6" near Bradford, to John	4	....	....	276	
do. John to Fulton	6	....	....	1,076	
do. West st. to Washburn	6	....	....	609	
do. Washburn to Wason ave	8	....	....	4,468	6,446
Pleasant st., at State	6	....	....	50	
do. from 6" to Bay	4	....	450	....	500
Plumtree road, east from Eddywoods ave	6	....	....	1,677	
do. east from 6"	2	200	....	....	1,877
Plymouth st	6	....	....	506	506
Pomona st	6	....	....	995	995

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Portland st.	6	....	....	674	674
Portsmouth st., east from Eastern ave.	6	....	....	243	243
Pratt st., Chestnut to Massasoit	6	....	....	655	655
Prescott st.	6	....	....	369	369
Prince st., King to 1" at Lebanon	2	366	....	....	
do. at Lebanon	1	7	....	....	373
Princeton st.	6	....	....	1,883	1,883
Prospect st., Chestnut to Massasoit	4	....	....	620	
do. Massasoit to Narragansett	8	....	....	407	
do. Narragansett to Carew, 516 feet (see "Circuit Main," north section)	36	....	....	——	1,027
Prospect st. court, south from Prospect st.	2	201	....	....	201
Pynchon st., Main to opposite I. O. O. F. building	8	....	....	562	
do. from 8" to Water	12	....	....	375	937
Quebec st., I. O., east from Lyons	6	....	....	441	441
Queen st., east from Walnut	4	....	....	427	
do. from 4" to 8" at Hancock	6	....	....	332	
do. at Hancock	8	....	....	30	789
Quincy st., at Oak	8	....	....	14	
do. from 8" at Oak to 8" at Hancock (west)	6	....	....	1,388	
do. at Hancock (west)	8	....	....	30	
do. at Hancock (east)	8	....	....	14	
do. from 8" at Hancock (east) to Colton	6	....	....	1,687	3,133
Railroad st., Main to 12" at Water	6	....	....	591	
do. at Water	12	....	....	7	598
Randall ave., north from Allen st.	4	....	....	416	
do. north from 4" (see S. R.–15,121)	1½	437	....	....	853
Randolph st., Maplewood terrace to Forest Park ave.	6	....	....	706	706
Ranney st.	6	....	....	1,476	1,476
Rapalus ave., I. O., easterly from Parker st.	6	....	....	454	454
Raymond ave., north from Carew st. (P) (S. R.–8,618)	2	158	....	....	
do. north from private pipe	2	116	....	....	274
Reed st.	6	....	....	725	725
Revere st.	6	....	....	1,344	1,344
Richelieu court	4	....	....	487	487
Richelieu place (P) (S. R.–8,627)	2	145	....	....	145
Ridgewood place	6	....	....	583	583
Ridgewood terrace, west from Mulberry st. (top of hill)	4	....	....	247	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Ridgewood terrace, west from 4" and north to Union st	6	....	....	355	
do. north from Mulberry st	2	121	....	....	723
Rimmon ave., Gladwood to Atwater terrace	6	....	....	1,038	1,038
Ringgold st	6	....	....	764	764
Ripley place	6	....	....	212	212
Riverview st	6	....	....	737	737
Riverview terrace (south roadway), Fort Pleasant ave. to Riverview st	6	....	....	276	276
Rochelle st., south from Wilbraham road	6	....	....	797	797
Rogers ave., I. O., south from Main st	6	....	....	275	
do. south from 6" (see S. R.–18,562)	1	38	....	....	313
Roseland st., west from Plainfield	6	....	....	901	901
Round hill, Plainfield st. to brow of hill	6	....	....	456	
do. 769 feet (see "Circuit Main," lower section)	36	....	....	——	456
Rowland st., west from Plainfield	6	....	....	377	
do. Plainfield to Fisk ave	8	....	....	625	1,002
Rush ave., south from Berkshire	1¼	275	....	....	275
Ruskin st., south from Eleanor road	6	....	....	146	146
Rutland st	8	....	....	344	344
Rutledge ave	6	....	....	534	534
Sachem st., north from Dickinson	6	....	....	344	344
Sackett ave	1½	247	....	....	247
Salem st., Spring to Elliott	6	....	....	417	
do. Elliott to Mattoon (at turn)	6	....	....	104	521
Sanford st., east from Main	6	....	....	30	
do. from 6" to Market	4	....	....	117	
do. Market to Dwight	6	....	....	396	
do. Market to 4" at Dwight (parallel line)	6	....	....	421	
do. at Dwight (parallel line)	4	....	....	6	970
Sargeant st	6	....	....	984	984
School st	12	....	....	1,487	1,487
Scott st	6	....	....	661	661
Searle place, east from Walnut st	6	....	....	207	207
Second st. (East Springfield)	6	....	....	655	655
Seventh st	12	....	....	935	935
Sewell st., Ludlow, southeast from 24" main (see S. R.–14,079–14,097)	1½	659	....	....	659
Shamrock ave., south from Noel st	6	....	....	228	
do. south from 6" (see S. R.–13,367)	1½	80	....	....	308
Shamrock st., west from Oakland	2	171	....	....	171
Sharon st	10	....	....	1,573	1,573
Shattuck st., Oak Grove ave. to Cortland st	6	....	....	1,253	1,253

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Shefford st., north from Springfield	8	....	....	281	281
Sheldon st., east from Birnie ave	6	....	....	375	
do. east from 6" to near North Main (connecting to 36")	4	....	....	252	
do. 722 feet (see "Circuit Main," north section)	36	....	....	——	627
Sheridan lane, south from Morgan st	2	162	....	....	
do. south from 2"	1½	54	....	....	216
Sherman st., State to Bay	4	....	....	1,590	
do. Bay to opposite No. 164 (P) (S. R.–3,615–3,701)	1	112	....	....	1,702
Shillingford st., east from Eastern ave	6	....	....	533	533
Silver st., east from Armory	4	....	....	593	593
Smith st., at Maple	6	....	....	4	
do. from 6" to Dorne	4	....	....	296	
do. Dorne to Knox	6	....	....	202	502
Sorrento st., Sumner ave. to Grenada ter.	6	....	....	538	
do. north from Grenada terrace (see S. R.–13,142–15,048–17,595–18,179–'80)	1½	332	....	....	870
South st., I. O., Healey ave. to beyond Orchard ave	6	....	....	415	
do. east from 6" (see S. R.–18,482)	1	121	....	....	536
Spencer st., south from Sumner ave	6	....	....	567	
do. south from 6"	1½	217	....	....	784
Spring st., State to Lyman	6	....	....	2,404	2,404
Springfield st., Chestnut to Armory	8	....	....	3,449	
do. Armory to Gladwood ave	12	....	....	153	
do. Gladwood ave. to Hamburg st	6	....	....	815	4,417
Spruce st	8	....	....	754	754
Spruceland ave., Longhill st. to Magnolia terrace	6	...	...	1,111	1,111
Stafford st., westerly from Armory	6	...	....	398	398
State st., from railroad (west) to Water	4	....	....	314	
do. east from Water	24	....	....	40	
do. from 24" near Water (east) to 12" near Main (west)	8	....	....	906	
do. from 8" to Main	12	....	....	79	
do. Main to Spring	16	....	....	1,956	
do. at Spring (east)	16	....	....	30	
do. from 16" at Spring (east) to Federal	20	....	....	1,778	
do. Federal to Thompson	20	....	....	2,324	
do. Thompson to east of Westminster	24	....	....	490	
do. east of Westminster to Berkshire ave. (see Ludlow supply, "Main No. 1")	24	....	——	——	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
State st., near Water (east) connecting to and supplied by 24" (parallel line)	6	....	....	12	
do. from connecting 6" to Main st. (parallel line)	6	....	....	958	
do. east from Main (parallel line)	6	....	....	50	
do. from 6" near Main to Maple (parallel line)	8	....	....	796	
do. Maple to opposite east line of State St. Grammar school (parallel line)	6	....	....	475	
do. connecting 6" and 16" opp. State St. Grammar school (parallel line)	8	....	....	31	
do. Oak to Hawley	4	....	....	2,373	
do. Catharine to Eastern ave. (south of and parallel to 24" main) for Catharine st.	12	....	....	138	
do. just west of N. Y., N. H. & H. R. R. to College st. (parallel line)	4	....	....	1,638	
do. west from College (south of and parallel to 24" main) for College st.	8	....	....	93	14,481
State st. ave., north from State st.	1½	232	....	....	232
Stebbins st., at State	8	....	....	87	
do. from 8" to Union	4	....	....	701	
do. Union to Quincy	6	....	....	229	1,017
Stebbins st., Ludlow, west from Harris rd.	6	....	....	470	470
Sterling st., east from Armory	6	....	....	566	566
Sterns terrace, north from Central st.	2	475	....	....	
do. at end of street, from Avon place connecting line (for hydrant only)	6	....	....	12	487
St. James ave., State st. to Bay	10	....	....	163	
do. from near State to Bay	8	....	87	....	
do. Bay st. to 8" at Dartmouth (south)	6	....	....	2,647	
do. at Dartmouth st. (south)	8	....	....	12	
do. at Dartmouth st. (north)	6	....	....	12	
do. from 6" at Dartmouth st. (north) to 6" near Lafayette	8	....	....	1,310	
do. from 8" near Lafayette st. to Dorchester	6	....	....	174	4,405
St. James boulevard (included in Ludlow supply, "Main No. 2")	30	....	....	——	
Stevens st., south from Page boulevard	12	....	....	638	638

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Stockbridge st., Main to Willow	6	....	....	358	
do. Willow to Maple	6	....	....	475	833
Suffolk st., south from Wilbraham road	6	....	....	1,391	1,391
Sullivan st., east from Armory	6	....	....	380	380
Summer st., Spring to Kibbe ave	8	....	....	1,871	
do. northerly from street (crossing private property between Nos. 56 and 60) to near railroad tracks	4	....	....	210	
do. Kibbe ave. to Armory st	8	....	....	1,169	3,250
Sumner ave., Longhill st. to Fort Pleasant ave	6	....	....	737	
do. Fort Pleasant to White st	8	....	....	6,820	
do. White st. to opposite No. 1,079 (near Allen st.)	6	....	....	3,322	
do. Dickinson st. to White (parallel line)	16	....	....	2,547	
do. at Dickinson st. (connecting)	8	....	....	32	13,458
Sumner terrace, Sumner ave. to Garfield st. (northerly portion crossing private property)	6	....	....	681	681
Superior pl., south from Worthington st.	6	....	....	285	285
Switzer ave., Emily st. to east of County	6	....	....	372	372
Sycamore st., Bay to Acorn	6	....	....	961	961
Sylvan ave., south from Belmont	6	....	....	731	
do. south from 6″ (P) (S. R.–19,427)	1	24	....	....	755
Symonds ave., Worthington st. to North Church ave	4	....	....	151	151
Talcott ave	6	....	....	754	754
Taylor st., Main to Dwight	8	....	....	777	
do. east from Dwight	8	....	....	424	
do. from 8″ to Chestnut	6	....	....	36	1,237
Temple st	4	....	....	1,014	1,014
Tenth st	6	....	....	1,628	
do. east from Main (hydrant only)	6	....	....	25	1,653
Terrence st., at State	8	....	....	77	
do. from 8″ to Union	4	....	735	....	812
Thayer ave., north from Orange st	1½	138	....	....	138
Thomas st	6	....	....	651	651
Thompson st., State to Worthington, 2,289 feet (see "Circuit Main," hill section)	30	....	....	———	
Townsley ave	6	....	....	177	177
Tracy ave., Liberty st. to near Franklin	6	....	....	435	
do. from 6″ to Franklin st	2	30	....	....	465
Tremont st., east from Second (East Springfield)	8	....	....	484	484

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Trenton st., east from Dickinson	4	....	....	148	148
Trillium st	6	....	....	438	438
Trinity terrace, south from Sumner ave.	6	....	....	339	339
Tyler st., at Oak	10	....	....	30	
do. from 10" at Oak to 6" cement-lined	6	....	....	9	
do. from 6" cast-iron to 10" at Hancock (west)	6	....	1,372	....	
do. at Hancock (west)	10	....	....	28	
do. at Hancock (east)	10	....	....	9	
do. from 10" at Hancock (east) to Colton	6	....	....	1,694	3,142
Union st., railroad to Water	8	....	....	437	
do. Water to School	6	....	....	2,784	
do. School to Mulberry	8	....	....	981	
do. at Mulberry (east)	10	....	....	6	
do. from 10" at Mulberry (east) to 10" cast-iron at Oak (west)	8	....	1,318	....	
do. from 8" cement to Oak	10	....	....	38	
do. Oak st. (east)	10	....	....	30	
do. from 10" to 8" cement near Oak	8	....	....	26	
do. from 8" cast-iron to 10" at Hancock (west)	8	....	1,368		
do. at Hancock (west)	10	....	....	38	
do. Hancock to Colton	6	....	....	1,692	8,718
Van Horn ave	8	....	....	518	518
Van Ness ave., east from Hamburg st.	6	....	....	322	322
Vassar st	6	....	....	542	542
Ventura st	6	....	....	957	957
Vermont st., Pomona to Converse	6	....	....	846	846
Vernon st., Main to 12" at Water	6	....	....	843	
do. at Water	12	....	....	17	
do. west from Main (short line)	8	....	....	83	943
Vine st	6	....	....	854	854
Vinton st., Liberty to near Franklin	6	....	....	644	644
Virginia st	6	....	....	969	969
Wait st., east from Armory (P) (S. R.–12,495)	1½	267	....	....	
do. east from 1¼" (P) (S. R.–16,047 and 19,295)	1	405	....	....	
do. west from Penacook ave.	6	....	....	413	1,085
Walden st., Dickinson to Commonwealth ave.	6	....	....	298	
do. east from Commonwealth ave. (see S. R.–12,275)	1½	192	....	....	490
Walker st., Water to Gardner ave.	8	....	....	462	
do. Gardner ave. to railroad	6	....	....	223	685

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Walnut ct., west from Walnut st. (P) (S. R.–3,187)	2	222	....	....	222
Walnut st., State to Union	12	....	700	....	
do. Union to 12" at Cedar (north)	8	....	2,037	....	
do. at Cedar (north from Cedar st. 16")	12	....	....	26	
do. between Cedar st. 16" and Lebanon st. 16"	16	....	....	20	
do. from Lebanon st. 16" to Hancock	8	....	....	854	
do. Hancock to Hickory (at U. S. Watershops)	12	....	....	1,575	
do. Hancock to and crossing Hickory and thence in Mill st. to Mill river (at U. S. Watershops), 1,870 feet (see "Circuit Main," hill section)	24	....	....	——	5,212
Walter st	6	....	....	462	462
Waltham ave	6	....	....	1,047	1,047
Wareham st., Orange to Grand	4	....	....	602	602
Warehouse st., crossing private property north from Allen	6	....	....	733	733
Warner st	6	....	....	791	791
Warren ave., west from Hancock st	2	112	....	....	112
Warriner ave., east from Locust st	6	....	....	434	434
Warwick st., east from Heywood (P) (S. R.–6,720)	6	....	....	386	
do. completion to Armory	6	....	....	867	
do. for hydrants (P) (S. R.–6,720)	4	....	....	24	1,277
Washburn st., west from east line of Plainfield	6	....	....	1,460	1,460
Washington boulevard, west from Magnolia terrace	6	....	....	189	
do. west from 6"	1	218	....	....	
do. east from Pineywoods ave	8	....	....	204	611
Washington road, Sumner ave. to Washington boulevard	6	....	....	1,519	1,519
Washington st., east from Commonwealth ave	6	....	....	228	228
Wason ave., North Main st. to 12" gate at Fisk ave. (east)	12	....	....	960	
do. from 12" gate at Fisk ave. (east) to 8" pipe at Plainfield st	10	....	....	1,016	
do. from 10" to Plainfield st. main	8	....	....	15	
do. at Fisk ave. (west) (for hydrant only)	8	....	....	14	2,005

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Water st., Railroad st. (north line) to Gardner, 5,152 feet (see "Circuit Main," lower section)	36	....	....	———	
Water st., I. O., east from Oak	8	....	....	50	
do. east from 8"	6	....	....	210	260
Waverly st	10	....	....	900	
do. at North Main (east and west)	6	....	....	31	931
Weaver ramble, north from Rimmon ave	6	....	....	267	267
Webster st	6	....	....	672	672
Welcome place	6	....	....	256	256
Wellesley st	6	....	....	480	480
Wellington st., south from Wilbraham road	6	....	....	1,067	1,067
Wendell ave	6	....	....	457	457
Wentworth ave., west from Liberty st	6	....	....	460	460
West st., west from Plainfield	6	....	....	794	
do. west from 6"	1¼	385	....	....	1,179
West Alvord ave., west from East Alvord	8	....	....	243	243
Westernview st	6	....	....	696	696
Westford ave	6	....	....	2,160	2,160
Westford circle, east from Westford ave	6	....	....	296	296
Westminster st., at State	8	....	....	35	
do. from 8" to Bay	6	....	1,077	....	
do. Bay to St. James ave	6	....	....	920	2,032
White st., Allen to hydrant, south of Dawson (opposite house No. 244)	6	....	....	2,587	
do. from 6" to Sumner ave. (16" pipe)	8	....	....	1,842	
do. at Sumner ave., connecting 16" and 8"	12	....	....	40	
do. Sumner ave. to Longfellow ter	12	....	....	954	
do. Longfellow ter. to Ainsworth ave	8	....	....	2,206	
do. Ainsworth ave. to near Long-meadow line	6	....	....	388	8,017
Whiting st., westerly from Plainfield (P) (S. R.–16,568)	1¼	675	....	....	675
Whitney place, west from Water st	4	....	....	396	396
Whittier ave	6	....	....	1,267	1,267
Wight place, east from Water st	6	....	....	280	
do. east from 6"	1¼	157	....	....	437
Wilbraham ave., south from Wilbraham road	6	....	....	1,603	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONTINUED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought Iron	Cement-Lined	Cast-Iron	
Wilbraham ave., from 6" to King st...	8	....	....	545	
do. north from Alden st.....	8	....	....	27	2,175
Wilbraham road, Eastern ave. to near Carlisle st. (west).....	12	....	....	3,945	
do. from 12" to opposite House of Good Shepherd.....	8	....	....	1,639	
do. east from 8" (see S. R.–12,284–12,285).....	1¼	417	....	....	6,001
Wilcox st., Main to Water.....	6	....	....	961	
do. Water to near railroad.....	4	....	....	461	
do. west from 4" (crossing railroad).....	1½	108	....	....	1,530
Willard ave., near State st. to Shattuck.....	6	....	....	714	
do. at Shattuck st. (north).....	6	....	....	8	722
William st., railroad to Water.....	8	....	....	528	
do. Water to Dale.....	6	....	....	1,555	2,083
Willow st., State to Hubbard ave.....	10	....	....	1,233	
do. north from Hubbard ave. (see S. R.–13,375).....	1	56	....	....	1,289
Wilmont st.....	6	....	....	1,202	1,202
Wilton st., south from Boston road....	6	....	....	745	745
Winchester st.....	4	....	543	....	543
Windsor st.....	6	....	....	716	716
Winthrop st.....	6	....	....	688	688
Wolcott st.....	6	....	....	487	487
Woodbine ave., north from Hickory st.....	4	....	....	319	
do. north from 4" (P) (S. R.–8,185)	1¼	192	....	....	511
Woodlawn st., south from Belmont ave.....	6	....	....	282	282
Woodmont st., east from Liberty.....	2	772	....	....	
do. west from Liberty.....	2	337	....	....	1,109
Woodside terrace, north from Forest Park ave.....	4	....	....	319	
do. north from 4" (see S. R.–12,137)	1	20	....	....	
do. north from Belmont ave.....	6	....	....	440	779
Woodworth ave.....	2	469	....	....	469
Worcester ave.....	6	....	....	828	
do. at Fisk ave. (for hydrant only)..	6	....	....	18	846
Worcester st., I. O., Fiberloid Co. to Myrtle st.....	16	....	....	3,369	
do. Holly to Oak.....	6	....	....	2,066	
do. at Myrtle (for by-pass).....	6	....	....	40	
do. Oak to Pine.....	2	598	....	....	
do. Pine to near Lyons.....	6	....	....	1,352	7,425
Worthington st., Water to Broadway..	12	....	....	303	

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SUPPLY AND DISTRIBUTION MAIN PIPE.—CONCLUDED.

LOCATION OF PIPE	Size in Inches	LENGTH IN FEET			Totals in Feet
		Wrought-Iron	Cement-Lined	Cast-Iron	
Worthington st., Broadway to Dwight st.	8	....	....	1,280	
do. Dwight to near No. 432–434	10	....	....	559	
do. near No. 432–434 to Bowdoin	8	....	....	4,686	
do. Bowdoin to St. James ave.	12	....	....	1,620	
do. Symonds ave. to Spring st. (parallel line)	6	....	....	2,288	10,736
"X" court, west from Dickinson st	4	....	....	252	252
Yale st., Dartmouth to Monmouth	6	....	....	1,656	1,656
York st., west from Main	10	....	....	286	
do. west from 10"	8	....	....	183	
do. from 8" to Hanover (west)	6	....	....	499	968
York st. ave., south from York st.	1¼	174	....	....	174
Totals, December 1, 1912	...	*103,576	62,789	863,809	1,030,174

*Includes 66,124 feet of *steel* pipe, as follows:—
65,806 feet=*lock-bar* steel (see "Little River Supply");
318 feet=*riveted* steel (see "Circuit Main," lower section).

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APPENDIX X.

SUMMARY OF SUPPLY AND DISTRIBUTION MAIN PIPE IN USE DECEMBER 1, 1912.

SIZES.	Wrought-Iron.	Cement-Lined.	Cast-Iron.	Steel. L=*Lock-bar.* R=*Riveted.*	TOTALS.
1-inch.....	2,393	....	....	....	2,393
1¼-inch....	8,228	....	....	....	8,228
1½-inch....	7,145	....	....	....	7,145
2-inch.....	19,146	....	....	....	19,146
3-inch.....	813	....	....	....	813
4-inch.....	....	2,817	55,864	....	58,681
6-inch.....	....	4,471	436,325	....	440,796
8-inch.....	....	7,330	149,649	....	156,979
10-inch.....	....	....	30,299	....	30,299
12-inch.....	....	1,056	43,781	....	44,837
16-inch.....	....	....	33,560	....	33,560
20-inch.....	....	....	8,758	....	8,758
24-inch.....	....	47,115	21,115	....	68,230
30-inch.....	....	....	50,364	L 2,163	52,527
36-inch.....	....	....	31,567	R 318	31,885
42-inch.....	....	....	2,254	L 61,792	64,046
54-inch.....	....	....	....	L 1,851	1,851
Feet,.....	37,725	62,789	863,536	66,124	1,030,174
Miles,.....	7.14+	11.89+	163.55—	12.52+	195.11—

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APPENDIX XI.

GATES SET IN 1912.

(INCLUDING THOSE ADDED.)

ONE INCH.

Berkshire avenue, near Rush, added to gate book, account previous years (air valve),	1	
Maple street, Ludlow, at Mero (east), account previous years,	1	
	—	2

ONE AND ONE-QUARTER INCH.

Ludlow main No. 2, west of First street, added to gate book, account previous years (air valve),	1	
Sewell street, Ludlow, at North,	1	
West street, at League park,	1	
Whiting street, at Plainfield (west), account previous years,	1	
	—	4

TWO INCH.

Alvord triangle, at East Alvord avenue (west),	1	
Alvord triangle, at West Alvord avenue (east),	1	
Amaron street, near Wilbraham road (flush),	1	
Arlington court, at Main street,	1	
Berkshire avenue, west of Bay path, added to gate book, account previous years (air valve),	1	
Berkshire avenue, east of Bay road, added to gate book, account previous years (air valve),	1	
Berkshire avenue, west of Harvey street, added to gate book, account previous years (air valve),	1	
Berkshire avenue, I. O., west of No. 1255, added to gate book, account previous years (air valve),	1	
Centre street, I. O., east of Nos. 270-272 (flush),	1	
Concord terrace, near State street (flush),	1	
Crane street, north of Gillett (flush),	1	
Edgemont street, near north end of street (flush),	1	
Goodrich street (flush),	1	
Hancock street, near Central (flush),	1	
Logan street, south of King (flush),	1	
Marengo park, near Dickinson street (flush),	1	

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Morell street, at Carew (private),	1	
Orleans court, at Oak street,	1	
Plainfield street, north of Division street (flush),	1	
Plainfield street, at Demond avenue (flush),	1	
Ranney street, near Kensington avenue (flush),	1	
Ranney street, near Wilmont (flush),	1	
Rapalus avenue, I. O. (flush),	1	
Sharon street, near Main (flush),	1	
State street, east of Westminster (flush),	1	
Trinity terrace, at Morningside park (flush),	1	
Walnut court, at Walnut street, account previous years,	1	
Walnut court, near end, account previous years (flush),	1	
Waltham avenue, at angle (flush),	1	
Wilbraham avenue (flush),	1	
	—	30

TWO AND ONE-HALF INCH.

Greenleaf street, near Garfield (flush),	1	
Oak street, north of Tyler (flush),	1	
	—	2

THREE INCH.

Greenwood street, near Chestnut (flush),	1	
State street, for Springfield Gas Light Co. (private),	1	
State street, for Hendee Mfg. Co. (private),	1	
	—	3

FOUR INCH.

Andrew street, at Burr (south),	1	
Andrew street, midway,	1	
Burr street, at Montrose (east),	1	
Burr street, at Mapledell (west),	1	
Chestnut street, for No. 162 Chestnut (private),	1	
James street, midway,	1	
King street, midway,	1	
Logan street, for Standard Electric Time Co. (private),	1	
Oak street, for schoolhouse (private),	1	
Quincy street, for National Papeterie Co. (private),	1	
State street, for United Electric Light Co. (private), account previous years,	1	
State street, west of railroad at Hendee Mfg. Co.,	1	

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State street, at Rutland (west),..... 1
State street, at Rutland (east),..... 1
State street, at Concord terrace (west),..... 1
State street, at Concord terrace (east),..... 1
State street, at Amaron (west),..... 1
State street, at Amaron (east),..... 1
State street, at College (west),..... 1
Stevens street, for Stevens-Duryea Co. (private),..... 1
Tyler street, for National Papeterie Co. (private),..... 1
Water street, for N. Y., N. H. & H. R. R. Co. (private),..... 1
Wilbraham avenue, for Van Norman Machine Tool Co. (private), ... 1
Worthington street, for No. 162 Chestnut (private),..... 1
— 24

SIX INCH.

Albemarle avenue, 368′ north of Westford circle (hydrant),.. 1
Albemarle avenue, 108′ north of No. 82 (hydrant),..... 1
Albemarle avenue, 350′ south of Wilbraham road (hydrant), 1
Alden street, N. W. corner Logan (hydrant),..... 1
Alderman street, at Dickinson (east),..... 1
Aderman street, at Berendo (east),..... 1
Amaron street, midway (hydrant),..... 1
Andrew street, S. E. corner Burr (hydrant),..... 1
Andrew street, opposite No. 50 (hydrant),..... 1
Andrew street, N. E. corner State (hydrant),..... 1
Andrew street, at State (north),..... 1
Armory street, N. E. corner Wait (hydrant),..... 1
Ashley street, midway,..... 1
Atwater terrace, 900′ north of Springfield street (hydrant),.. 1
Bartlett avenue, at Carew street (north),..... 1
Beaumont street, at Dickinson,..... 1
Berkshire avenue, N. W. corner Eastland street (hydrant),... 1
Berkshire avenue, east of Bay Path, added to gate book, account previous years (drain valve),..... 1
Berkshire avenue, east of billboard, added to gate book, accout previous years (drain valve),..... 1
Berkshire avenue, east of Cottage street, added to gate book, account previous years (drain valve),..... 1

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Berkshire avenue, at No. 1255, added to gate book, account previous years (drain valve),..... 1
Biltmore street, N. W. corner Dickinson (hydrant),..... 1
Biltmore street, at Dickinson street (west),..... 1
Biltmore street, 343′ west of Dickinson (hydrant),..... 1
Biltmore street, midway,..... 1
Biltmore street, 340′ east of Trafton road (hydrant),..... 1
Biltmore street, N. E. corner Trafton road (hydrant),..... 1
Biltmore street, at Trafton road (east),..... 1
Birnie avenue, 200′ north of Grace street (hydrant),..... 1
Blaine street, at White (east),..... 1
Blaine street, at Brunswick avenue (west),..... 1
Boston road, at Coleman street (east),..... 1
Boston road, at schoolhouse (hydrant),..... 1
Boston road, at Denver street (east),..... 1
Briggs street, I. O., at Moore avenue (east),..... 1
Burlington street, at Dickinson,..... 1
Burr street, at Oak Grove avenue (west),..... 1
Cambridge street, 300′ north of Burr (hydrant),..... 1
Cambridge street, at Nos. 89-91,..... 1
Carew street, for E. A. Dexter, No. 123 (private),..... 1
Charter avenue, at Oak street (west),..... 1
Chase avenue, at Riverview street (hydrant),..... 1
Chestnut street, N. E. corner State (hydrant),..... 1
Chestnut street, north of B. & A. R. R. (hydrant),..... 1
Chicopee road, S. E. corner Carew street (hydrant),..... 1
Chicopee road, 490′ south of Carew street (hydrant),..... 1
Clarendon street, N. E. corner Worthington (hydrant),..... 1
Clarendon street, at angle,..... 1
Clarendon street, at angle (hydrant),..... 1
Clarendon street, at Dartmouth terrace..... 1
Concord terrace, midway (hydrant),..... 1
Converse street, at Sumner avenue (north),..... 1
Cornell street, at Harvard (north)..... 1
Cornell street, at Wellesley (north),..... 1
Cornell street, at Princeton (north),..... 1
Cortland street, 110′ south of Shattuck (hydrant),..... 1
Crane street, at Franklin (north),..... 1
Crane street, north of Gillett (hydrant),..... 1
Dartmouth terrace, 325′ west of St. James avenue (hydrant), 1

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Dartmouth terrace, between Nos. 171-183,..... 1
Dartmouth terrace, between Nos. 171-183 (hydrant),..... 1
Denton circle, at Liberty street (east),..... 1
Denver street, at No. 49,..... 1
Denver street, at No. 49 (hydrant),..... 1
Dickinson street, at Oakland (east),..... 1
Dickinson street, at Mason place (west),..... 1
Dickinson street, east of Johnson (hydrant),..... 1
Dickinson street, at Kenwood park (east),..... 1
Dickinson street, east of Wilmont (hydrant),..... 1
Dickinson street, at Beaumont (east),..... 1
Dickinson street, 22′ south of Alderman (hydrant),..... 1
Dickinson street, at Burlington (south),..... 1
Dickinson street, 130′ north of Sumner avenue (hydrant),... 1
Dickinson street, near Sumner avenue,..... 1
Dickinson street, at Virginia (north),..... 1
Dickinson street, at Biltmore (north),..... 1
Division street, at Plainfield (west),..... 1
Division street, N. W. corner Plainfield (hydrant),..... 1
Dunmoreland avenue, 360′ south of Wilbraham road,..... 1
Duryea street, at Page boulevard (south),..... 1
Duryea street, 387′ south of Page boulevard (hydrant),..... 1
Dymon street, at Oak (west),..... 1
Dwight street, N. E. corner Taylor (hydrant),..... 1
Dwight street, S. E. corner Lyman (hydrant),..... 1
East Alvord avenue, N. E. corner Sumner (hydrant),..... 1
East Alvord avenue, 157′ north of Alvord triangle (hydrant), 1
Elm street, midway,..... 1
Forest Park avenue, at Pineywoods (north),..... 1
Franklin street, at Charles (hydrant),..... 1
Fresno street, at Page boulevard (south),..... 1
Fresno street, 384′ south of Page boulevard (hydrant),..... 1
Gillett street, at Crane (east),..... 1
Grand street, at Revere (west),..... 1
Grand street, at Malden (east),..... 1
Greenbrier street, at Trillium (south),..... 1
Greenbrier street, at Trillium (hydrant),..... 1
Greenbrier street, at Blaine (north),..... 1
Grenada terrace, at Ventura street (west),..... 1
Grenada terrace, 105′ west of Ventura street (hydrant),..... 1

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Grenada terrace, 60′ west of Sorrento street (hydrant),..... 1
Grenada terrace, at Sorrento street (west),..... 1
Harris road, Ludlow, at Mero street (north),..... 1
Harris road, Ludlow, at Maple street (south),..... 1
Harris road, Ludlow, at Stebbins street (north),..... 1
Hayden avenue, at State street (north),..... 1
Herman street, at Sumner avenue (north),..... 1
Homer street, N. E. corner Wilbraham road (hydrant),..... 1
Homestead avenue, S. E. corner Berkshire (hydrant),..... 1
Homestead avenue, 350′ south of Berkshire (hydrant),..... 1
Homestead avenue, 700′ south of Berkshire (hydrant),..... 1
Homestead avenue, 1,100′ south of Berkshire (hydrant),.... 1
Howard street, midway,..... 1
Hunter place, at State street (north),..... 1
James street, N. W. corner Walnut (hydrant),..... 1
Jasper street, midway (hydrant),..... 1
Jasper street, opposite No. 58,..... 1
Johnson street, at Earl (west),..... 1
Johnson street, N. W. corner Earl (hydrant),..... 1
Johnson street, midway,..... 1
Johnson street, 500′ east of Dickinson street (hydrant),..... 1
Kenwood park, at Dickinson street,..... 1
Lester street, at Sumner avenue (north),..... 1
Lillian street, at Oak (east),..... 1
Lyons street, I. O., at Clermont (south),..... 1
Main street, for Potter Knitting Co., No. 908 (private),..... 1
Maple court, midway,..... 1
Mapledell street, midway,..... 1
Margaret street, midway,..... 1
Margerie street, at State (north),..... 1
Margerie street, N. E. corner State (hydrant),..... 1
Marshall place, at Melrose court (north),..... 1
Marshall place, at Melrose court (hydrant),..... 1
Marshall place, at Walnut street (east),..... 1
Massachusetts avenue, at Westford circle (hydrant),..... 1
Massasoit place, at Bartlett avenue (west),..... 1
Melrose court, at Eastern avenue (west),..... 1
Melrose court, at Melrose street (north),..... 1
Melrose street, at Walnut (east),..... 1
Mero street, Ludlow, at Harris road (east),..... 1

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Mero street, Ludlow, at Maple (south),..... 1
Miller street, east of No. 89 (hydrant),..... 1
Miller street, east of No. 61,..... 1
Monrovia street, 252′ south of Page boulevard (hydrant),.... 1
Montrose street, N. E. corner State (hydrant),..... 1
Montrose street, 100′ south of Burr (hydrant),..... 1
Montrose street, midway, ... 1
Mooreland avenue, opposite Nos. 70-72,..... 1
Mooreland avenue, S. E. corner Van Horn (hydrant),..... 1
Mooreland avenue, at Van Horn (south),..... 1
Napier street (hydrant),..... 1
North Main street, for National Equipment Co., No. 662 (private), ... 1
Oak street, S. E. corner Tyler (hydrant),..... 1
Oak street, S. E. corner Quincy (hydrant),..... 1
Oak street, N. E. corner Union (hydrant),..... 1
Oak street, 52′ south of Lillian (hydrant),..... 1
Oak Grove avenue, 500′ south of Acorn street (hydrant),..... 1
Oxford street, at No. 38,..... 1
Oxford street, at Riverview (north),..... 1
Oxford street, N. W. corner Riverview (hydrant),..... 1
Page boulevard, S. W. corner Stevens street (hydrant),..... 1
Page boulevard, east of Stevens-Duryea Co. (hydrant),..... 1
Page boulevard, for Stevens-Duryea Co. (private),..... 1
Parkside avenue, midway,..... 1
Parkside avenue, at Van Horn (south),..... 1
Pequot street, I. O., at Lyons (west),..... 1
Pineywoods avenue, at Washington road (east),..... 1
Pineywoods avenue, at Firglade (west),..... 1
Pineywoods avenue, at Magnolia terrace (west),..... 1
Pineywoods avenue, at Florentine Gardens (west),..... 1
Pineywoods avenue, at Washington boulevard,..... 1
Plainfield street, at Plymouth (north),..... 1
Pomona street, at Sumner avenue (north),..... 1
Quincy street, at Orleans (west),..... 1
Quincy street, at Orleans (east),..... 1
Quincy street, midway Hancock and Eastern avenue,..... 1
Ranney street, at Alderman,..... 1
Ranney street, opposite Wilmont (hydrant),..... 1
Ranney street, at Johnson (north),..... 1

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Ranney street, at Bloomfield (north),..... 1
Ranney street, N. E. corner Bloomfield (hydrant),..... 1
Round Hill, at Dunn's (hydrant),..... 1
Ruskin street, at Eleanor road (south),..... 1
Rutland street, midway (hydrant),..... 1
Second street, at Tremont (south),..... 1
Sorrento street, at Sumner avenue (north),..... 1
State street, 41′ east of Hayden avenue (hydrant),..... 1
St. James avenue, at Bay street (north),..... 1
Stevens street, 285′ south of Page boulevard (hydrant),..... 1
Stevens street, for Stevens-Duryea Co. (private),..... 1
Stevens street, 600′ south of Page boulevard (hydrant),..... 1
Summer street, S. E. corner Kibbe avenue (hydrant),..... 1
Sumner avenue, N. W. corner Pomona street (hydrant),..... 1
Sumner avenue, 12′ west of Herman street (hydrant),..... 1
Sumner avenue, N. E. corner Converse street (hydrant),..... 1
Sumner avenue, 10′ west of Whittier (hydrant),..... 1
Sumner avenue, at Irvington street (east),..... 1
Taylor street, at No. 58 (hydrant),..... 1
Tremont street, 450′ east of Second (hydrant),..... 1
Trillium street, at White (east),..... 1
Trillium street, N. E. corner White (hydrant),..... 1
Trillium street, at Greenbrier (west),..... 1
Union street, midway Water and Main,..... 1
Union street, N. W. corner Main (hydrant),..... 1
Ventura street, at Sumner avenue (north),..... 1
Virginia street, at Dickinson (west),..... 1
Virginia street, N. W. corner Dickinson (hydrant),..... 1
Virginia street, 394′ west of Dickinson (hydrant),..... 1
Virginia street, midway,..... 1
Virginia street, N. E. corner Trafton road (hydrant),..... 1
Virginia street, at Trafton road (east),..... 1
Waltham avenue, at Wilbraham avenue (west),..... 1
Waltham avenue, midway,..... 1
Wason avenue, for Bausch Machine Tool Co. (private),..... 1
Wentworth avenue, at Liberty street (west),..... 1
Wentworth avenue, 441′ west of Liberty street (hydrant),..... 1
West street, near Hampden park,..... 1
West street, at League park (hydrant),..... 1
Westford circle, at Westford avenue (east),..... 1

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Wilbraham avenue, at Southampton street (north),..... 1
Wilbraham avenue, midway Beverly and King streets,..... 1
Wilbraham road, east of Waltham avenue (hydrant),..... 1
Wilcox street, midway,..... 1
William street, midway,..... 1
William street, at No. 116 (hydrant),..... 1
Wilmont street, at Ranney (west),..... 1
Wilton street, at Boston road (south),..... 1
Wilton street, 500′ south of Boston road (hydrant),..... 1
— 227

EIGHT INCH.

Albemarle avenue, at Wilbraham road (south),..... 1
Albemarle avenue, north of 82,..... 1
Amaron street, at Wilbraham road (north),..... 1
Amaron street, at State (south),..... 1
Amaron street, at State,..... 1
Atwater terrace, at Springfield street (north),..... 1
Bay street, at St. James avenue (east),..... 1
Berkshire avenue, I. O., west of Chestnut street, account previous years (drain valve),..... 1
College street, at State (south),..... 1
Concord terrace, at Wilbraham road (north),..... 1
Concord terrace, at State street (south),..... 1
Concord terrace, at State street,..... 1
Dunmoreland avenue, at Wilbraham road (south),..... 1
East Alvord avenue, at Sumner,..... 1
East Alvord avenue, at Sumner (north),..... 1
East Alvord avenue, at West Alvord (north),..... 1
Franklin street, at Webster (east),..... 1
Grenada terrace, at Dickinson street (east),..... 1
Homestead avenue, I. O., at Berkshire (south),..... 1
Homestead avenue, 700′ south of Berkshire,..... 1
Johnson street, at Dickinson,..... 1
Kibbe avenue, at Summer street (south),..... 1
Ludlow Main No. 2, at Poor Brook, account previous years (drain valve),..... 1
Mapledell street, at State (north),..... 1
Massachusetts avenue, at No. 104,..... 1
Massachusetts avenue, at Westford circle (north),..... 1

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Massachusetts avenue, at Westford circle (south),..... 1
Monrovia street, at Page boulevard (south),..... 1
Montrose street, at State (north),..... 1
Napier street, at Armory (east),..... 1
Oak street, at Charter avenue (north),..... 1
Oak street, at Union (north),..... 1
Oak street, at Union (south),..... 1
Oak street, at Quincy (south),..... 1
Oak street, at Tyler (north),..... 1
Oak Grove avenue, at Center street (west),..... 1
Oak Grove avenue, midway Acorn and Burr streets,..... 1
Oak Grove avenue, at State street (north),..... 1
Plainfield street, at Whiting (north),..... 1
Quincy street, at Oak (east),..... 1
Rutland street, at Wilbraham road (north),..... 1
Rutland street, at State (south),..... 1
Rutland street, at State,..... 1
Sumner avenue, N. W. corner Ventura street (hydrant),..... 1
Sumner avenue, at Ventura street (east),..... 1
Sumner avenue, at Pomona street (west),..... 1
Sumner avenue, at Dickinson street,..... 1
Tremont street, at Second (east),..... 1
Van Horn avenue, at Mooreland (west),..... 1
Van Horn avenue, at Armory street (west),..... 1
Walnut street, at Oak (north),..... 1
Washington boulevard, at Pineywoods avenue (east),..... 1
West Alvord avenue, at East Alvord,..... 1
Wilbraham avenue, at Van Norman Machine Tool Co.,..... 1
Wilbraham road, at Benton street (west),..... 1
Wilmont street, at Dickinson,..... 1
— 56

TEN INCH.

Dwight street, at Lyman (south),..... 1
Dwight street, at Taylor (north),..... 1
Oak street, at Walnut,..... 1
Tyler street, at Oak (east),..... 1
Union street, at Oak (east),..... 1
Union street, at Oak (west),..... 1
— 6

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TWELVE INCH.

Chestnut street, at Bridge (north),	1	
Chestnut street, at Pearl (north),	1	
Stevens street, at Page boulevard (south),	1	
Stevens street, 300′ south of Page boulevard,	1	
Walnut street, at Melrose (north),	1	
White street, at Sumner avenue,	1	
Wilbraham road, at Waltham avenue (east),	1	
Wilbraham road, at Rutland street (east),	1	
Wilbraham road, at Concord terrace (east),	1	
Wilbraham road, at Amaron street (east),	1	
Wilbraham road, at Rochelle street (east),	1	
Wilbraham road, at Dresden street (west),	1	
Wilbraham road, at Bristol street (west),	1	
Worthington street, at Clarendon (east),	1	
Worthington street, at St. James avenue,	1	
	—	15

SIXTEEN INCH.

Sumner avenue, at Sorrento street (east),	1	
Sumner avenue, at Herman street (west),	1	
Sumner avenue, at White street (west),	1	
Sumner avenue, at East Alvord (west),	1	
	—	4

TWENTY INCH.

Dickinson street, at Oakland (east),	1	
Dickinson street, at Alderman (north),	1	
Sumner avenue, at Dickinson street (east),	1	
	—	3

TWENTY-FOUR INCH.

North street, Ludlow, east of Hampden railroad,	1	
State street, at Hayden avenue (east),	1	
State street, at Oak Grove avenue (east),	1	
	—	3
Total number of gates added in 1912,		379

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APPENDIX XII.

GATES TAKEN OUT IN 1912.

(INCLUDING THOSE ABANDONED.)

ONE INCH.

Franklin street, near Webster (east),	1	
Marengo park, near Dickinson street (flush),	2	
	—	3

ONE AND ONE-QUARTER INCH.

Clarendon street, at Worthington (north),	1	
Melrose street, at Walnut (east),	1	
Rutland street, at Wilbraham road (north),	1	
Sewell street, Ludlow, at North,	1	
	—	4

ONE AND ONE-HALF INCH.

Amaron street, at Wilbraham road (north),	1	
	—	1

TWO INCH.

Charter avenue, at Oak street (west),	1	
Concord terrace at Wilbraham road (north),	1	
Maple street, at George (west),	1	
Oak Grove avenue, at Oak Grove Park roadway (blow-off),	1	
Orleans court, at Oak street (east),	1	
	—	5

THREE INCH.

Carew street, for E. A. Dexter, No. 123 (private),	1	
Greenwood street, near Chestnut (flush),	1	
	—	2

FOUR INCH.

Andrew street, at State (north),	1	
Hayden avenue, at State street (north),	1	
Lillian street, at Oak (east),	1	
Lyman street, for Springfield Power Associates (private),	1	
Oak street, north of Tyler (flush),	1	
	—	5

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SIX INCH.

Alderman street, at Dickinson (east),	1	
Dickinson street, at Oakland (east),	1	
Dymon street, at Oak (west),	1	
Grenada terrace, at Dickinson street (east),	1	
Hunter place, at State street (north),	1	
Johnson street, near Oakland,	1	
Mapledell street, at State (north),	1	
Mero street, at Harris road (east),	1	
Oak Grove avenue, at State street (north),	1	
Quincy street, at Oak (east),	1	
Round Hill,	1	
State street, for Reed Realty Trust,	1	
Tyler street, at Oak (east),	1	
Wilmont street, at Dickinson,	1	
		— 14

EIGHT INCH.

Oak street, at Walnut,	1	
Union street, at Oak (west),	1	
Union street, at Oak (east),	1	
		— 3
Total number of gates deducted in 1912,		37
Number of gates, December 1, 1911,		3,896
Number of gates added in 1912,	379	
Number of gates deducted in 1912,	37	
Net addition in 1912,		342
Total number of gates, December 1, 1912,		4,238

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APPENDIX XIII.

FIRE HYDRANTS SET IN 1912.

(ALL SIX INCH UNLESS OTHERWISE SPECIFIED.)

Albemarle avenue, 350′ south of Wilbraham road,	1
Albemarle avenue, 108′ north of No. 82,	1
Albemarle avenue, 368′ north of Westford circle,	1
Alden street, N. W. corner Logan,	1
Amaron street, 208′ north of Wilbraham road,	1
Andrew street, opposite No. 50,	1
Andrew street, 10′ south of Burr,	1
Andrew street, N. E. corner State,	1
Armory street, N. E. corner Wait,	1
Atwater terrace, 900′ north of Springfield street,	1
Berkshire avenue, N. W. corner Eastland street,	1
Biltmore street, N. W. corner Dickinson,	1
Biltmore street, 343′ west of Dickinson,	1
Biltmore street, 340′ east of Trafton road,	1
Biltmore street, N. E. corner Trafton road,	1
Birnie avenue, 200′ north of Grace street,	1
Boston road, at schoolhouse,	1
Cambridge street, 300′ north of Burr,	1
Chestnut street, N. E. corner State,	1
Chestnut street, just north of Boston & Albany railroad,	1
Chicopee road, S. E. corner Carew street,	1
Chicopee road, 490′ south of Carew street,	1
Clarendon street, at Worthington,	1
Clarendon street, at angle,	1
Concord terrace, 183′ south of State street,	1
Cortland street, 110′ south of Shattuck,	1
Crane street, 38′ north of Gillett,	1
Dartmouth terrace, 325′ west of St. James avenue,	1
Dartmouth terrace, between Nos. 171 and 183,	1
Denver street, at No. 49,	1
Dickinson street, just east of Johnson,	1
Dickinson street, 52′ east of Wilmont,	1
Dickinson street, 22′ south of Alderman,	1
Dickinson street, 130′ north of Sumner avenue,	1
Division street, N. W. corner Plainfield,	1

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Dunmoreland avenue, 350′ south of Wilbraham road,..... 1
Duryea street, 387′ south of Page boulevard,..... 1
Dwight street, N. E. corner Taylor,..... 1
Dwight street, S. E. corner Lyman,..... 1
Dwight street, N. E. corner Harrison avenue (4″),..... 1
East Alvord avenue, N. E. corner Sumner,..... 1
East Alvord avenue, 157′ north of Alvord triangle,..... 1
Elm street, S. W. corner Main,..... 1
Fresno street, 384′ south of Page boulevard,..... 1
Greenbrier street, at Trillium,..... 1
Grenada terrace, 105′ west of Ventura street,..... 1
Grenada terrace, 60′ west of Sorrento street,..... 1
Harrison avenue, 116′ west of Dwight street,..... 1
Homer street, N. E. corner Wilbraham road,..... 1
Homestead avenue, I. O., S. E. corner Berkshire (one 5″).... 2
Homestead avenue, I. O., 350′ south of Berkshire (one 5″),... 2
Homestead avenue, I. O., 700′ south of Berkshire (one 5″),.... 2
Homestead avenue, I. O., 1,100′ south of Berkshire (one 5″),.. 2
James street, N. W. corner Walnut,..... 1
Jasper street, midway, ... 1
Johnson street, N. W. corner Earl,..... 1
Liberty street, 99′ west of Chestnut,..... 1
Margerie street, N. E. corner State,..... 1
Marshall place, at Melrose court,..... 1
Massachusetts avenue, south of Westford circle,..... 1
Miller street, east of No. 89,..... 1
Monrovia street, 252′ south of Page boulevard,..... 1
Montrose street, N. E. corner State,..... 1
Montrose street, 100′ south of Burr,..... 1
Mooreland avenue, N. E. corner Van Horn,..... 1
Napier street, near Saw Works,..... 1
Oak street, 52′ south of Lillian,..... 1
Oak street, N. E. corner Union,..... 1
Oak street, S. E. corner Quincy,..... 1
Oak street, S. E. corner Tyler,..... 1
Oak Grove avenue, 500′ south of Acorn street,..... 1
Orchard street, near river,..... 1
Osgood street, east of No. 42,..... 1
Oxford street, at Riverview terrace,..... 1
Page boulevard, S. W. corner Stevens street,..... 1

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Page boulevard, east of Stevens-Duryea Company,	1
Ranney street, opposite Wilmont	1
Ranney street, N. E. corner Bloomfield,	1
Round Hill, at Dunn's,	1
Rutland street, 135′ south of State,	1
School street, N. E. corner High,	1
Springfield street, opposite Atwater terrace,	1
State street, 41′ east of Hayden avenue,	1
Stevens street, 300′ south of Page boulevard,	1
Stevens street, 600′ south of Page boulevard,	1
Sumner avenue, west of Lester street	1
Sumner avenue, N. W. corner Ventura street (8″),	1
Sumner avenue, N. W. corner Pomona street,	1
Sumner avenue, N. W. corner Herman street,	1
Sumner avenue, N. E. corner Converse street,	1
Taylor street, 300′ east of Power avenue,	1
Taylor street, 238′ east of Main,	1
Tremont street, 450′ east of Second,	1
Trillium street, N. E. corner White	1
Union street, N. W. corner Main,	1
Vernon street, N. W. corner Main,	1
Virginia street, N. W. corner Dickinson,	1
Virginia street, 394′ west of Dickinson,	1
Virginia street, N. E. corner Trafton road,	1
Washburn street (4″),	1
Wentworth avenue, 441′ west of Liberty street,	1
West street, at League park,	1
Wilbraham avenue, in yard of Van Norman Machine Tool Co. (private),	1
Wilbraham road, east of Waltham avenue,	1
William street, at No. 116,	1
Wilton street, 500′ south of Boston road,	1
Worthington street, N. E. corner Autumn,	1
Total number of hydrants added in 1912,	111

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APPENDIX XIV.

FIRE HYDRANTS TAKEN OUT IN 1912.

Alden street, N. W. corner Logan,	1
Andrew street, N. E. corner State,	1
Birnie avenue, 200′ north of Grace street,	1
Chestnut street, N. E. corner State,	1
Chestnut street, just north of B. & A. railroad,	1
Chicopee road, S. E. corner Carew street,	1
Dartmouth terrace, 465′ west of St. James avenue,	1
Dickinson street, 16′ south of Alderman,	1
Dwight street, S. E. corner Lyman,	1
Dwight street, N. E. corner Taylor,	1
Dwight street, N. E. corner Harrison avenue,	1
Elm streeet, S. W. corner Main,	1
Foster street, at No. 45 (not listed as taken out in 1911),	1
Grenada terrace, 46′ east of Sorrento street,	1
Harrison avenue, 116′ west of Dwight street,	1
Homestead avenue, I. O., S. E. corner Berkshire,	1
Homestead avenue, I. O., 350′ south of Berkshire,	1
Homestead avenue, I. O., 700′ south of Berkshire,	1
Homestead avenue, I. O., 1,100′ south of Berkshire,	1
James street, N. W. corner Walnut,	1
Liberty street, 99′ west of Chestnut,	1
Oak street, N. E. corner Quincy,	1
Oak street, S. W. corner Charter avenue,	1
Orchard street, at river,	1
Osgood street, east of No. 42,	1
Plainfield street, at Fulton,	1
Round Hill, at Dunn's,	1
School street, N. E. corner High,	1
Springfield street, opposite Atwater terrace,	1
Sumner avenue, just west of Lester street,	1
Taylor street, 300′ east of Power avenue,	1
Taylor street, 238′ east of Main,	1
Union street, S. W. corner Main,	1
Vernon street, N. W. corner Main,	1
Washburn street,	1
Wilbraham road, opposite Waltham avenue (private),	1

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William street, at No. 116,	1
Worthington street, N. E. corner Autumn,	1
Total number of hydrants deducted in 1912,	38
Number of public hydrants, as per report December 1, 1911,	1,393
Number of public hydrants added in 1912,	110
Number of public hydrants deducted in 1912,	37
Net addition, 1912,	73
Total number public hydrants, December 1, 1912,	1,466
Number of private hydrants, December 1, 1911,	107
Number of private hydrants added in 1912,	1
Number of private hydrants deducted in 1912,	1
	— 0
Total number of private hydrants, December 1, 1912,	107
Total number of hydrants connected with the works, December 1, 1912,	1,573

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APPENDIX XV.

FIRE HYDRANTS

IN USE DECEMBER 1, 1912.

ABBREVIATIONS.

N. = North.	C. = Chapman.
S. = South.	Co. = Corey.
E. = East.	M. = Matthews.
W. = West.	P. = Perkins.
r. g. = rubber gate.	s. con. = steamer connection.

☞All hydrants may be considered 4″, unless otherwise designated.

☞All hydrants may be considered as having two nozzles, unless otherwise designated.

☞The pressure is in pounds per square inch, and is estimated static pressure with elevation of water in Provin mountain reservoir taken at 400′ above mean sea level or state datum.

☞Figures in parenthesis indicate distance of hydrant-gate from hydrant.

	Make.	Pressure.	Main Pipe.
ABBE AVENUE.			
N. W. corner Plainfield st	C.	147	6″
N. side, 120′ W. of No. 20, 6″ s. con. (*gate* 5′)	Co.	147	6″
N. side, 3′ E. of No. 154, 6″ s. con	C.	147	6″
ACUSHNET AVENUE.			
N. side, on E. line of No. 38	C.	144	6″
N. side, 8′ E. of No. 76	C.	141	6″
ADAMS STREET.			
S. side, 250′ W. of Richelieu court	C.	145	8″
ALBANY STREET.			
N. side, 125′ W. of Standard Oil Co.'s building, 6″ (*gate* 2′ 8″)	Co.	116	8″
N. side, 427′ W. of Standard Oil Co.'s building, 6″ (*gate* 3′ 3″)	Co.	116	8″

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	Make.	Pressure.	Main Pipe.
ALBEMARLE AVENUE.			
E. side, 350′ S. of Wilbraham road, 6″ (*gate* 2′ 9″)	Co.	83	8″
E. side, 108′ N. of No. 82, 6″ (*gate* 4′ 3″)	Co.	83	8″
E. side, 368′ N. of Westford circle, 6″ (*gate* 4′ 3″)	Co.	83	8″
ALDEN STREET.			
N. side, 275′ E. of Hancock	C.	87	6″
N. side, 7′ E. of No. 80	C.	87	6″
N. side, 7′ W. of Eastern avenue	C.	87	6″
N. side, 5′ W. of Logan, 6″ (*gate* 3′ 6″)	Co.	87	6″
N. side, 8′ W. of Hickory, 6″ s. con	C.	87	8″
ALDERMAN STREET.			
S. side, 6′ E. of Sorrento, 6″ s. con. (*gate* 7′)	C.	91	6″
ALEXANDER STREET.			
N. side, 6′ E. of North	C.	143	6″
ALFRED STREET.			
N. W. corner North Main, 6″ 3-way (*gate* 3′ 10″)	Co.	146	6″
ALLEN STREET.			
S. W. corner Mill, 6″ (*gate* 18′)	Co.	106	24″
N. side, 110′ W. of Hunt terrace	C.	90	6″
N. side, 225′ E. of Randall avenue	C.	93	6″
N. side, 454′ W. of railroad tracks	C.	89	6″
N. side, 76′ E. of railroad tracks, 6″ (*gate* 3′ 9″)	Co.	88	6″
N. side, opposite W. line of Dell terrace, 6″ (*gate* 3′ 9″)	Co.	83	6″
N. W. corner Plumtree road, 4″ 1-way	C.	83	6″
ALLENDALE STREET.			
N. W. corner Chestnut	C.	141	6″
N. side, 9′ E. of E. line of Nos. 30-32	C.	140	6″
AMARON STREET.			
E. side, 208′ N. of Wilbraham road, 6″ (*gate* 3′ 9″)	Co.	83	8″
AMHERST STREET.			
S. W. corner Lafayette	C.	83	6

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	Make.	Pressure.	Main Pipe.
ANDREW STREET.			
N. E. corner State, 6″ (*gate* 4′)	Co.	84	4″
E. side, opposite No. 50, 6″ (*gate* 6′ 5″)	Co.	84	4″
E. side, 10′ S. of Burr, 6″ (*gate* 5′)	Co.	84	4″
*E. side, 65′ N. of Dawes	C.	84	4″
APPLEWOOD PLACE.			
W. side, at end of street, 6″ (*gate* 3′ 8″)	Co.	92	6″
ARBOR STREET.			
E. side, 75′ N. of Butler	C.	131	6″
ARBUTUS STREET.			
E. side, 269′ S. of Bay, 6″ (*gate* 3′ 3″)	Co.	72	6″
ARCH STREET.			
N. W. corner North Main	P.	145	6″
N. side, 15′ W. of W. line of No. 36	C.	145	6″
S. side, 12′ W. of Birnie avenue, 6″ (*gate* 11′)	P.	145	6″
ARMORY STREET.			
S. E. corner Magazine	C.	89	4″
E. side, 100′ S. of Summer, 6″ s. con., r. g. (*gate* 4′)	C.	104	8″
E. side, 20′ E. of bridge, 19′ N. of track (at paint shops)	C.	116	8″
W. side, 18′ N. of Warwick, 6″ s. con	C.	109	8″
E. side, 36′ N. of Wolcott, 6″ s. con	C.	96	8″
E. side, 2′ N. of Carew (*gate* 15′)	C.	87	8″
E. side, 3′ S. of Governor, 6″ 3-way (*gate* 3′)	C.	86	8″
N. E. corner Wait, 6″ (*gate* 4′)	Co.	86	8″
E. side, 29′ S. of S. line of Training School, 6″ s. con.	C.	89	8″
ARMORY STREET COURT.			
S. E. corner Armory street avenue, 6″ s. con	C.	100	6″
ASHLEY STREET.			
N. side, 450′ E. of Cedar	C.	88	6″
N. side, 435′ W. of Walnut, front of No. 92	C.	88	6″
N. side, 52′ W. of Walnut, 6″ (*gate* 5′ 7″)	Co.	88	6″

*Taken out since December 1.

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	Make.	Pressure.	Main Pipe.
ASHMUN STREET.			
E. side, 33′ S. of N. line of Adams	C.	140	8″
ASTER STREET.			
E. side, 340′ S. of Bay, 6″ (*gate* 5′)	Co.	72	6″
ATWATER TERRACE.			
N. side, 13′ E. of W. line of No. 210	C.	67	6″
N. side, 276′ W. of hydrant, front of No. 210, 6″ (*gate* 4′ 9″)	Co.	67	6″
E. side, 900′ N. of Springfield street, 6″ (*gate* 3′ 4″)	Co.	65	8″
AUBURN STREET.			
S. W. corner Main	C.	143	6″
N. side, 2′ W. of No. 34	C.	143	6″
AUSTIN STREET.			
N. W. corner State, 6″ (*gate* 4′ 10″)	Co.	80	8″
W. side, 360′ N. of State, 6″ (*gate* 3′ 2″)	Co.	80	8″
AVON PLACE.			
N. side, 430′ E. of Maple street	C.	123	4″
AVON PLACE—MADISON AVENUE (Connecting Line).			
S. side Avon place, 675′ E. of Maple street, front of No. 67, 8″ 4-way (*gate* 4′)	C.	123	8″
S. side Cemetery avenue, 677′ E. of Maple street, 8″ 4-way (*gate* 3′)	C.	123	8″
BANCROFT STREET.			
S. W. corner Chestnut	C.	142	6″
S. side, front of No. 33	C.	142	6″
BANKS PLACE.			
S. side, 197′ W. of Water street, opposite No. 20, 6″ s. con., r. g. (*gate* 16′ 9″)	C.	143	6″
BAY PATH.			
E. side, 5′ N. of Berkshire avenue, 6″ s. con., r. g. (*gate* 6′ 6″)	C.	79	8″
E. side, 370′ N. of Berkshire avenue, 6″ s. con., r. g. (*gate* 6′ 6″)	C.	79	8″
E. side, 770′ N. of Berkshire avenue, 6″ s. con., r. g. (*gate* 6′ 6″)	C.	79	8″

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	Make.	Pressure.	Main Pipe.
Bay Street.			
N. side, E. of Thompson, 6″ (*gate* 3′ 3″)	Co.	85	8″
S. E. corner Bowles	C.	83	8″
S. E. corner Girard avenue	C.	83	8″
S. side, 37′ E. of Dawes	C.	83	8″
S. E. corner Oak Grove avenue	C.	82	8″
S. side, 7′ E. of Sycamore, 6″ (*gate* 5′ 3″)	Co.	78	8″
S. side, 8′ E. of Edgewood, 6″ (*gate* 5′ 3″)	Co.	74	8″
S. E. corner Aster, 6″ (*gate* 5′ 6″)	Co.	72	8″
Beacon Street.			
S. side, 4′ W. of Colton (*gate* 5′)	C.	83	6″
Beauchamp Street.			
N. side, 2′ E. of No. 48	C.	87	6″
Beaumont Street.			
W. side, 5′ N. of Belmont avenue, 6″ s. con	C.	92	6″
E. side, 8′ S. of Belmont avenue, 6″ (*gate* 4′)	Co.	92	6″
E. side, 5′ N. of Sumner avenue, 6″ (*gate* 4′)	Co.	92	6″
Beech Street.			
E. side, 250′ S. of Florence	C.	90	6″
Bellevue Avenue.			
E. side, 8′ N. of S. line of La Verne street	P.	91	8″
S. side, 5′ W. of W. line of Dickinson street	C.	98	8″
Belmont Avenue.			
N. side, 250′ W. of Bellevue	C.	93	8″
N. side, 75′ E. of Bellevue	C.	93	8″
N. side, 2′ E. of E. line of Commonwealth, 6″ s. con	C.	91	8″
N. side, 20′ W. of Bryant street, 6″ s. con., r. g. (*gate* 5′ 6″)	C.	91	8″
N. side, 30′ E. of Longfellow terrace, 6″ s. con., r. g. (*gate* 5′ 4″)	C.	91	8″
N. side, 7′ W. of Prescott street, 6″ 3-way, r. g. (*gate* 5′ 2″)	C.	91	8″
N. W. corner White street, 6″ (*gate* 5′ 6″)	Co.	91	8″

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	Make.	Pressure.	Main Pipe.
BELVIDERE AVENUE.			
E. side, 11′ N. of Fountain place, 6″ s. con. (*gate* 5′ 7″)	C.	90	6″
BENTON AVENUE.			
N. E. corner Benton street, 6″ s. con	C.	84	6″
BENTON STREET.			
S. E. corner State (*gate* 13′)	C.	84	4″
E. side, 17′ N. of Wilbraham road, 6″ s. con	C.	84	6″
BERENDO STREET.			
E. side, 12′ S. of Alderman, 6″ s. con	C.	91	6″
BERKELEY STREET.			
N. W. corner Monmouth	C.	83	6″
BERKSHIRE AVENUE.			
N. W. corner Eastland street, 6″ (*gate* 6′ 4″)	Co.	84	24″
BESSE PLACE.			
N. side, 9′ E. of No. 30 (*private*)	C.	143	6″
BETHUNE STREET.			
E. side, at end of street, 6″ (*gate* 4′ 5″)	Co.	83	6″
BEVIER STREET.			
N. side, 5′ E. of Armory	C.	97	6″
N. side, 4′ E. of No. 52 (*gate* 2′ 5″)	C.	97	6″
BILTMORE STREET.			
N. W. corner Dickinson, 6″ (*gate* 3′ 10″)	Co.	90	6″
N. side, 343′ W. of Dickinson, 6″ (*gate* 4′)	Co.	90	6″
N. side, 340′ E. of Trafton road, 6″ (*gate* 3′ 10″)	Co.	90	6″
N. E. corner Trafton road, 6″ (*gate* 3′ 10″)	Co.	90	6″
BIRNIE AVENUE.			
S. E. corner Wason, 6″ s. con. (*gate* 10′ 2″)	C.	146	8″
E. side, 200′ N. of Grace street, 6″ (*gate* 12′ 2″)	Co.	146	8″
E. side, 11′ S. of Grace street, 6″ 3-way (*gate* 8′)	C.	146	8″

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Bernie Avenue—(*Continued*).	Make.	Pressure.	Main Pipe.
E. side, 4′ N. of Walter street, 6″ 3-way (*gate* 10′)	C.	146	8″
S. E. corner Alfred street, 6″ (*gate* 9′ 9″)	P.	147	8″
S. E. corner Douglas street, 6″ s. con. (*gate* 8′ 9″)	C.	146	8″
E. side, midway Douglas and Thomas streets, 6″ (*gate* 9′)	Co.	146	8″
S. E. corner Thomas street, 6″ (*gate* 8′ 3″)	Co.	146	8″
N. E. corner Portland street, 6″ (*gate* 3′ 10″)	Co.	146	8″
E. side, midway Medford and Hooker streets, 6″ (*gate* 4′ 9″)	Co.	146	8″
S. E. corner Greenwich street, 6″ (*gate* 3′)	Co.	146	8″
W. side, 9′ N. of Arch street, 6″ 3-way (*gate* 6′ 5″)	C.	146	36″
Blake Hill.			
N. E. corner Fort Pleasant ave., 6″ (*gate* 4′ 3″)	Co.	120	6″
S. side, 110′ W. of Belmont ave., 6″ (*gate* 8′ 8″)	Co.	112	6″
Bliss Street.			
N. side, 7′ W. of Main, 8″ 4-way (*gate* 3′ 9″)	Co.	145	10″
N. side, 2′ W. of E. line of No. 34, 6″ (*gate* 3′ 8″)	Co.	144	10″
N. side, 6′ E. of No. 68, 6″ (*gate* 6′)	Co.	144	10″
S. side, 260′ W. of Water, 6″ s. con. (*gate* 11′ 6″)	C.	146	6″
S. side, 340′ W. of Water, 6″ s. con. (*gate* 12′)	C.	146	6″
Bloomfield Street.			
N. side, 5′ W. of Pasadena, 6″ s. con	C.	91	6″
N. side, 5′ W. of Earl, 6″ s. con., r. g. (*gate* 7′ 4″)	C.	90	6″
N. side, 4′ E. of Oakland, 6″ s. con., r. g. (*gate* 3′ 9″)	C.	90	6″
Bond Place.			
Center of place, 157′ S. of Bridge street	C.	143	6″
Bond Street.			
S. E. corner Main (*gate* 14′ W.)	C.	145	6″
N. side, front of No. 48	C.	145	6″
N. side, on E. line of No. 94	C.	145	6″
*N. side, 375′ E. of North, 6″ (*gate* 4′ 7″)	Co.	145	6″
*N. W. corner Chestnut, 6″ (*gate* 5′ 6″)	Co.	139	6″

*Set since December 1.

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	Make.	Pressure.	Main Pipe.
Boston Road.			
N. E. corner Jasper street, 6″ s. con	C.	78	6″
N. side, at schoolhouse, 6″ (*gate* 11′ 3″)	Co.	78	6″
N. side, opposite Barber street, 6″ s. con	C.	78	6″
N. side, 175′ E. of Wilton street, 6″ s. con. (*gate* 12′ 4″)	Co.	78	6″
Boston & Albany Property.			
Off of 36″ main, 8″ 4-way (*gate* 11′ 9″ W.)	C.	142	36″
Bowdoin Street.			
E. side, 51′ S. of Ingersoll Grove	C.	89	6″
E. side, 2′ S. of Worthington	P.	88	4″
E. side, 375′ N. of Lincoln	C.	86	4″
E. side, 18′ N. of St. James avenue	C.	86	4″
Bowles Street.			
E. side, 332′ N. of McKnight	C.	83	4″
E. side, 3′ N. of McKnight	C.	83	4″
Boylston Street.			
E. side, 10′ S. of No. 29	C.	143	6″
Bradford Street.			
N. side, on W. line of No. 38	C.	142	6″
Bridge Street.			
N. E. corner Water, 6″ (*gate* 6′)	Co.	144	6″
N. side, 6′ W. of Broadway, 6″ s. con. (*gate* 4′ 2″)	C.	144	6″
S. side, at No. 131, 6″ (*gate* 2′ 4″)	Co.	144	12″
N. side, opposite Bond place, 6″ (*gate* 3′ 6″)	Co.	144	6″
S. W. corner Main, 6″ (*gate* 3′ 9″)	Co.	143	12″
N. E. corner Main, 6″ s. con., r. g. (*gate* 2′)	C.	143	6″
S. side, 4′ E. of Barnes, 8″ 4-way (*gate* 22′ 3″)	C.	143	6″
N. side, 33′ W. of Stearns square (E.)	C.	144	6″
N. side, 24′ E. of Dwight, 6″ 3-way (*gate* 5′ 9″)	Co.	144	6″
Bristol Street.			
*S. E. corner Wilbraham road, 6″ (*gate* 3′)	Co.	83	6″
E. side, 404′ S. of Wilbraham road, 6″ (*gate* 4′ 2″)	Co.	83	6″

*Set since December 1.

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Broad Street.	Make.	Pressure.	Main Pipe.
S. side, 3′ W. of Main, 8″ 4-way (*gate* 7′)	Co.	147	10″
S. side, 72′ E. of Pecousic avenue, 6″ (*gate* 6′ 3″)	Co.	147	10″
S. side, 146′ W. of Pecousic avenue, 6″ (*gate* 6′ 6″)	Co.	147	10″
S. side, 2′ E. of Hanover, 8″ 4-way (*gate* 6′ 5″)	C.	147	10″
Brookline Avenue.			
N. side, 4′ W. of Chestnut street, 6″ s. con.	C.	142	6″
Brooklyn Avenue.			
S. E. corner Sumner, 6″ (*gate* 3′ 8″)	Co.	90	6″
Brunswick Avenue.			
S. E. corner Brooklyn, 6″ (*gate* 3′ 8″)	Co.	90	6″
N. E. corner Blaine street, 6″ (*gate* 3′ 8″)	Co.	90	6″
Bryant Street.			
E. side, 8′ S. of Sumner avenue, 6″ s. con. (*gate* 4′ 6″)	Co.	92	8″
E. side, 409′ S. of Sumner avenue, 6″ s. con. (*gate* 4′ 10″)	Co.	92	8″
Buckingham Street.			
W. side, 13′ S. of Clarendon	C.	83	4″
N. E. corner Buckingham place	C.	83	4″
S. E. corner Bay, 6″ (*gate* 3′ 10″)	Co.	84	8″
E. side, at No. 84, 6″ (*gate* 3′ 10″)	Co.	84	8″
E. side, at No. 44, 6″ (*gate* 3′)	Co.	84	8″
N. E. corner State, 6″ (*gate* 4′)	Co.	84	8″
Burlington Street.			
W. side, 5′ N. of Belmont avenue, 6″ s. con	C.	92	6″
Butler Street.			
N. side, 350′ E. of Chestnut, 6″ s. con. (*gate* 4′)	C.	137	6″
N. side, 175′ W. of Arbor, 6″ s. con. (*gate* 3′ 3″)	C.	133	6″
N. side, 200′ E. of Arbor, 6″ s. con. (*gate* 3′ 4″)	C.	131	6″

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	Make.	Pressure.	Main Pipe.
Byers Street.			
E. side, 339′ S. of Pearl, 6″ s. con., r. g. (*gate* 5′ 6″)	C.	111	10″
E. side, 173′ N. of Frost, 6″ s. con., r. g. (*gate* 5′ 6″)	C.	111	10″
E. side, 128′ S. of Frost, 6″ s. con., r. g. (*gate* 5′ 3″)	C.	112	10″
N. E. corner State, 6″ s. con., r. g. (*gate* 31′ 2″)	C.	112	10″
Calhoun Street.			
N. side, 8′ E. of North	C.	144	6″
N. side, 8′ W. of No. 114, 6″ 3-way (*gate* 5′ 5″)	Co.	142	6″
Cambridge Street.			
E. side, 345′ S. of Bay	C.	83	6″
E. side, 515′ N. of Burr	C.	84	6″
E. side, 300′ N. of Burr, 6″ (*gate* 4′ 1″)	Co.	84	6″
Carew Place.			
E. side, on N. line of No. 15, 5″ s. con	C.	144	4″
Carew Street.			
S. side, 5′ E. of No. 27, 6″ (*gate* 5′ 8″)	Co.	144	20″
S. side, 5′ E. of No. 57, 6″ (*gate* 4′ 8″)	Co.	144	20″
*N. E. corner North, 6″ (*gate* 4′ 9″)	Co.	144	8″
N. side, 7′ E. of No. 130, 6″ s. con. (*gate* 4′)	C.	144	8″
N. E. corner Chestnut	C.	142	6″
N. W. corner Massasoit, 6″ 3-way (*gate* 11′ 8″)	Co.	135	6″
N. side, opposite Arbor, 6″ 3-way (*gate* 7′ 3″)	Co.	131	6″
N. E. corner Maycourt, 6″ 3-way (*gate* 9′ 7″ S.)	C.	86	30″
S. side, 450′ E. of Liberty, opposite Nos. 822-824, 6″ 3-way (*gate* 11′)	C.	83	30″
S. side, 850′ E. of Liberty, opposite No. 862, 6″ 3-way (*gate* 9′ 4″)	C.	83	30″
Carlisle Street.			
E. side, 8′ S. of Wilbraham road, 6″ s. con.	C.	84	6″
S. E. corner Byron avenue, 17′ S. of No. 54, 6″ s. con	C.	84	6″
Cass Street.			
E. side, opposite Linden, 6″ s. con., r. g. (*gate* 2′ 9″)	C.	129	8″
E. side, 250′ N. of Franklin, 6″ s. con., r. g. (*gate* 2′ 9″)	C.	129	8″
E. side, 2′ S. of Franklin	C.	129	6″

* Set since December 1, replacing 6″ Chapman.

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	Make.	Pressure.	Main Pipe.
CATHARINE STREET.			
E. side, 340′ N. of State	C.	84	12″
E. side, 30′ N. of Pease	C.	84	12″
E. side, 7′ S. of N. line of McKnight	C.	83	12″
S. E. corner Bay	C.	83	12″
CEDAR STREET.			
N. side, 13′ W. of Walnut, 6″ (*gate* 6′ 1″)	Co.	87	16″
N. side, 143′ E. of James, 6″ (*gate* 5′ 2″)	Co.	88	16″
N. side, 172′ W. of James, 6″ (*gate* 5′ 3″)	Co.	88	16″
N. E. corner Pine, 6″ 3-way, r. g. (*gate* 4′)	C.	89	16″
CENTER STREET.			
E. side, 325′ N. of Shattuck, 6″ 3-way (*gate* 6′)	C.	85	6″
E. side, 300′ N. of Oak Grove Park Roadway, 6″ (*gate* 5′ 8″)	Co.	85	6″
CENTRAL STREET.			
N. E. corner Main	C.	146	8″
N. side, 281′ W. of Morris, 6″ s. con	C.	142	8″
N. side, 25′ E. of Morris, 6″ (*gate* 2′ 3″)	Co.	137	10″
N. side, 24′ E. of Maple, 6″ s. con. (*gate* 2′ 6″)	C.	118	8″
N. side, 9′ E. of Sterns terrace, 6″ s. con. (*gate* 5′ 3″)	C.	102	8″
S. E. corner Cedar, 6″ 3-way (*gate* 6′ 3″)	C.	91	8″
S. side, 16′ N. of No. 319, 6″ (*gate* 21′ 3″)	Co.	90	8″
N. side, 3′ E. of Spruce, 6″ (*gate* 5′ 8″)	Co.	91	8″
N. side, 18′ E. of Hancock, 6″ (*gate* 3′ 8″)	Co.	103	8″
N. side, 6′ W. of Mill, 6″ s. con. (*gate* 7′ 10″)	C.	107	8″
CHAPIN TERRACE.			
N. side, 10′ W. of Massasoit, 6″ s. con., r. g. (*gate* 4′ 8″)	C.	135	8″
N. side, 4′ E. of Chestnut, 6″ s. con., r. g. (*gate* 6′ 3″)	C.	139	8″
CHARLES STREET.			
W. side, 174′ S. of Liberty	C.	135	4″
W. side, 7′ N. of S. line of No. 70, 6″ s. con	C.	135	6″
CHARTER AVENUE.			
S. side, 225′ E. of Walnut street, 6″ (*gate* 5′)	Co.	87	6″

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	Make.	Pressure.	Main Pipe.
CHASE AVENUE.			
N. side, 4′ E. of Fort Pleasant, 6″ s. con	C.	111	6″
N. side, 9′ W. of Riverview street, 6″ s. con	C.	98	6″
CHERRELYN AVENUE.			
E. side, 10′ S. of Phœnix street, 6″ s. con	C.	85	6″
CHERRY STREET.			
W. side, 127′ N. of Clifton avenue	C.	108	6″
W. side, 3′ N. of S. line of No. 51	C.	98	6″
W. side, 4′ S. of Central	C.	92	6″
CHESTER STREET.			
E. side, 430′ S. of Central, 6″ s. con. (*gate* 5′)	C.	107	6″
N. E. corner Mill, 6″ (*gate* 3′ 9″)	Co.	117	6″
CHESTNUT STREET.			
E. side, 8′ N. of State, 6″ (*gate* 21′ 10″)	Co.	135	6″
W. side, 454′ S. of Edwards, opposite N. vestry entrance to Christ Church	C.	129	8″
W. side, 234′ S. of Edwards, 6″ s. con	C.	129	8″
W. side, 5′ S. of Edwards, 6″	C.	128	8″
W. side, 8′ N. of Harrison avenue, 6″ s. con. (*gate* 4′ 2″)	C.	134	12″
W. side, opposite Mattoon, 6″ s. con. (*gate* 4′ 6″)	C.	134	12″
W. side, 10′ S. of N. line of Pearl, 6″ s. con. (*gate* 4′ 4″)	C.	136	12″
W. side, 13′ N. of Bridge, 6″ s. con. (*gate* 3′ 10″)	C.	137	12″
W. side, 5′ S. of Worthington, 6″ s. con. (*gate* 4′ 8″)	C.	140	12″
E. side, 5′ S. of N. line of Bemis place	C.	140	16″
W. side, 28′ S. of Lyman, 6″ (*gate* 28′ 8″)	C.	140	16″
E. side, N. E. corner driveway for B. & A. R. R., 6″ (*gate* 7′ 3″)	Co.	136	16″
W. side, 18′ N. of Liberty, 6″ (*gate* 33′ 4″)	C.	138	16″
E. side, 50′ N. of Liberty, 6″	C.	136	16″
E. side, 158′ N. of Liberty, 6″ s. con	C.	135	16″
E. side, opposite N. line of Sharon, 6″ s. con. (*gate* 5′ 5″)	C.	135	16″
E. side, opposite Congress	C.	135	16″

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CHESTNUT STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
S. E. corner Franklin, 6″ s. con. (*gate* 15′ 6″)	C.	137	16″
E. side, opposite Greenwood, 6″ s. con.	C.	136	16″
E. side, opposite Tenth, 6″ s. con	C.	136	16″
E. side, 5′ N. of Linden, 6″ s. con. (*gate* 23′ 6″)	C.	138	16″
E. side, opposite Patton, 6″ s. con.	C.	138	16″
*E. side, opposite Bond	C.	139	16″
†W. side, 47′ S. of Carew, 6″ (*gate* 24′ 9″)	Co.	141	16″
W. side, 8′ S. of S. line of Jefferson avenue	C.	140	12″
W. side, 8′ S. of Cumberland, 6″ 3-way (*gate* 13′ 3″)	C.	138	12″
W. side, opposite Springfield, 6″ 3-way (*gate* 7′ 3″)	C.	137	12″
CHICOPEE ROAD.			
E. side, 8′ S. of Carew street, 6″ (*gate* 4′ 5″)	Co.	82	6″
E. side, 490′ S. of Carew street, 6″ (*gate* 4′)	Co.	82	6″
E. side, 380′ W. of Liberty street, 6″ 3-way (*gate* 5′)	Co.	79	6″
CHILSON STREET.			
E. side, 180′ S. of Sumner avenue, 6″ 3-way (*gate* 4′ 2″)	Co.	90	6″
CHURCH STREET.			
S. E. corner North Main	C.	144	6″
S. side, 8′ E. of No. 27, 6″ s. con. (*gate* 3′)	C.	144	6″
S. side, front of No. 55, 6″ s. con. (*gate* 2′ 10″)	C.	144	6″
CHURCHILL STREET.			
E. side, 2′ S. of Garfield, 6″ (*gate* 3′ 5″)	Co.	93	6″
N. E. corner Sumner avenue	C.	94	6″
CIRCUIT MAIN—HILL SECTION.			
E. side, at Albany street, 8″ 4-way (*gate* 31′ 7″)	Co.	116	30″
CLANTOY STREET.			
E. side, 650′ S. of Phœnix, 38′ S. of No. 61, 6″ s. con.	C.	86	6″
CLAREMONT STREET.			
N. side, near Crown, 6″ (*gate* 4′)	Co.	90	6″

*Taken out since December 1.
†Set since December 1, replacing 4″ Chapman, S. E. corner Carew.

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	Make.	Pressure.	Main Pipe.
Clarendon Street.			
S. E. corner St. James avenue	C.	83	6″
N. side, 590′ E. of St. James avenue	C.	83	6″
N. E. corner Worthington, 6″ (*gate* 22′ 9″)	Co.	83	6″
N. side, at angle, 6″ (*gate* 22′ 5″)	Co.	84	6″
Clark Street.			
N. side, 3′ E. of Spruce, 6″ s. con	C.	90	6″
N. side, 300′ E. of Spruce, 5″ s. con	C.	90	6″
Clayton Street.			
N. side, on W. line of Nos. 38-40, 6″ s. con. (*gate* 4′ 3″)	Co.	147	6″
Cleveland Street.			
N. W. corner Liberty, 6″ s. con	C.	85	6″
N. side, 9′ E. of Armory, 6″ s. con	C.	88	6″
Clifford Street.			
W. side, 213′ N. of Bay	C.	83	4″
Cliftwood Street.			
E. side, 4′ S. of Sumner avenue, 6″ s. con	C.	92	6″
Clinton Street.			
N. W. corner Main, 6″ (*gate* 6′ 3″)	Co.	143	6″
S. side, 5′ E. of No. 39	C.	143	6″
Clyde Street.			
N. W. corner Plainfield, 6″ s. con	C.	147	6″
N. side, on W. line of No. 84	C.	147	6″
Coleman Street.			
E. side, 320′ S. of Boston road, 14′ N. of No. 37, 6″ s. con	C.	80	6″
College Street.			
E. side, 2′ N. of Wilbraham road	C.	83	8″
E. side, 400′ S. of Shattuck	C.	84	6″
E. side, 5′ S. of Shattuck	C.	84	6″

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	Make.	Pressure.	Main Pipe.
COLLINS STREET.			
N. side, 7′ W. of Logan	C.	87	6″
COLONIAL AVENUE.			
E. side, 6′ N. of Wilbraham road, 6″ s. con	C.	83	6″
COLTON STREET.			
S. W. corner Wilbraham road	C.	83	6″
COLUMBIA TERRACE.			
W. side, on S. line of Nos. 22-24, 6″ s. con	C.	116	6″
COMMONWEALTH AVENUE.			
N. E. corner Walden street, 6″ 3-way (*gate* 6′ 10″)	Co.	92	8″
E. side, 67′ S. of Hollywood street, front of Nos. 77-79, 6″ s. con	C.	91	6″
E. side, 231′ S. of Washington street, 15′ S. of No. 173, 6″ s. con	C.	91	6″
CONCORD TERRACE.			
E. side, 183′ S. of State street, 6″ (*gate* 3′ 9″)	Co.	83	8″
CONGRESS STREET.			
N. E. corner Main, 6″ (*gate* 6′ 1″)	Co.	143	6″
N. side, 5′ E. of No. 34	C.	145	6″
N. side, front of No. 100	C.	145	6″
CONTINENTAL STREET.			
E. side, 435′ S. of Sumner avenue, front of No. 43, 6″ s. con. (*gate* 4′ 8″)	C.	94	6″
CONVERSE STREET.			
E. side, 81′ S. of N. line of Vermont, opposite No. 42, 6″ s. con. (*gate* 3′ 2″)	Co.	91	6″
CORNELL STREET.			
S. side, 9′ E. of Harvard	C.	85	6″
S. side, 10′ E. of Wellesley	C.	84	6″
S. side, 6′ E. of Princeton	C.	84	6″
CORTLAND STREET.			
W. side, 210′ N. of State, 8′ N. of No. 12	C.	83	6″
W. side, 110′ S. of Shattuck, 6″ (*gate* 4′)	Co.	83	6″

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	Make.	Pressure.	Main Pipe.
COURT STREET.			
S. E. corner Water, 8″ 4-way (*gate* 12′ 8″)	Co.	144	12″
S. side, midway Court square and Water, 6″ (*gate* 13′ 6″)	Co.	144	6″
N. W. corner Court square, 8″ 4-way (*gate* 44′ 4″)	Co.	144	8″
N. E. corner Court square, 8″ 4-way (*gate* 49′)	Co.	144	8″
N. W. corner Main, 6″ 3-way (*gate* 2′ 4″)	Co.	144	6″
CRANE STREET.			
E. side, 38′ N. of Gillett, 6″ (*gate* 3′ 10″)	Co.	110	6″
CREST STREET.			
N. side, 350′ W. of Lakeside avenue, 6″ (*gate* 4′ 6″)	Co.	83	6″
CRESTWOOD STREET.			
N. side, 450′ W. of Springfield, 6″ (*gate* 1′ 8″)	Co.	85	6″
CROSS STREET.			
N. side, 324′ E. of Willow, 6″ (*gate* 4′ 4″)	Co.	144	10″
CROWN STREET.			
N. side, 200′ E. of White, 6″ (*gate* 3′ 9″)	Co.	90	6″
CRYSTAL AVENUE.			
W. side, 7′ S. of Dickinson street, 6″ (*gate* 5′)	Co.	92	6″
CUMBERLAND STREET			
N. W. corner North, 6″ (*gate* 4′ 5″)	Co.	144	8″
CYPRESS COURT.			
W. side, 350′ N. of Cypress street	C.	142	4″
CYPRESS STREET.			
N. W. corner Main, 6″ 3-way (*gate* 6′ 1″)	Co.	143	6″
S. W. corner Main	C.	143	8″
N. W. corner Cypress court	C.	143	8″
N. E. corner Gray's avenue (*gate* 24′ 2″)	C.	142	6″
N. E. corner Boylston, 8″ 4-way (*gate* 22′ 8″)	C.	143	36″
N. E. corner Fulton, 8″ 4-way (*gate* 21′ 1″)	C.	143	36″

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	Make.	Pressure.	Main Pipe.
DARTMOUTH STREET.			
N. side, 5′ E. of St. James avenue	C.	83	12″
N. side, 590′ E. of St. James avenue, opposite No. 53	C.	83	12″
DARTMOUTH TERRACE.			
In terrace, 325′ W. of St. James avenue, 6″ (*gate* 11′)	Co.	84	6″
S. side, between Nos. 171-183, 6″ (*gate* 23′ 6″)	Co.	84	6″
DAWES STREET.			
W. side, 440′ N. of angle of Dawes, 22′ S. of No. 60	C.	83	6″
*N. E. corner Andrew, 6″ (*gate* 3′ 6″)	Co.	83	6″
DAYTONA STREET.			
E. side, 5′ N. of Belmont avenue, 6″ s. con. (*gate* 4′ 6″)	C.	91	8″
E. side, 282′ S. of Sumner avenue, 6″ s. con. (*gate* 4′ 4″)	C.	91	8″
DEMOND AVENUE.			
N. side, opposite No. 43	C.	147	6″
DENVER STREET.			
E. side, at No. 49, 6″ (*gate* 5′)	Co.	80	6″
E. side, 860′ S. of Boston road, front of No. 91	C.	80	6″
DEXTER STREET.			
N. E. corner George, 6″ s. con., r. g. (*gate* 4′ 9″)	C.	94	6″
N. side, 27′ E. of Dorne, 8′ W. of No. 38, 6″ s. con., r. g. (*gate* 5′ 4″)	C.	105	6″
N. side, 8′ W. of Knox, 6″ s. con. (*gate* 4′ 3″)	C.	106	6″
DICKINSON STREET.			
W. side, 385′ N. of Bellevue avenue, 6″ s. con., r. g. (*gate* 4′ 6″)	C.	112	8″
N. side, 9′ E. of Johnson, 6″ (*gate* 2′ 9″)	Co.	92	20″
N. side, 52′ E. of Wilmont, 6″ (*gate* 2′ 9″)	Co.	92	20″

*Set since December 1, replacing 4″ Chapman on Andrew street.

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DICKINSON STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
E. side, 22′ S. of Alderman, 6″ (*gate* 2′ 4″)	Co.	92	20″
E. side, 130′ N. of Sumner avenue, 6″ (*gate* 2′ 9″)	Co.	92	20″
E. side, 185′ S. of Sumner avenue, 6″ s. con	C.	91	6″
DIVISION STREET.			
N. W. corner Plainfield, 6″ (*gate* 4′ 10″)	Co.	146	6″
DONALD STREET.			
N. E. corner Birnie avenue, 6″ s. con. (*gate* 3′ 4″)	C.	148	6″
N. W. corner North Main, 6″ s. con., r. g. (*gate* 4′ 2″)	C.	146	6″
DORCHESTER STREET.			
N. E. corner Monmouth	C.	83	6″
DORNE STREET.			
E. side, 208′ N. of Smith, 6″ (*gate* 3′ 2″)	Co.	107	6″
DOUGLAS STREET.			
N. W. corner North Main (*gate* 6′)	C.	146	6″
DOVER STREET.			
N. side, 250′ W. of Chestnut, 6″ s. con	C.	142	6″
DRESDEN STREET.			
E. side, 375′ N. of Wilbraham road, front of No. 37, 6″ s. con	C.	83	6″
DUNMORELAND AVENUE.			
E. side, 350′ S. of Wilbraham road, 6″ (*gate* 2′ 8″)	Co.	83	8″
DURYEA STREET.			
E. side, 387′ S. of Page boulevard, 6″ (*gate* 4′)	Co.	79	6″
DWIGHT STREET.			
W. side, 8′ N. of State	C.	143	6″
S. W. corner East Court	C.	144	6″
E. side, at East Court, 6″ (*gate* 3′ 5″)	Co.	144	10″
S. W. corner New, 6″ (*gate* 6′ 8″)	Co.	144	6″
N. E. corner Harrison avenue (*gate* 10′ 7″)	C.	144	10″

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DWIGHT STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
E. side, 152′ N. of Harrison avenue, 6″ s. con. (*gate* 6′ 4″)	C.	144	10″
S. W. corner Hillman (*gate* 10′ 2″ from W. line Dwight, 14′ 6″ from S. line Hillman)	C.	144	6″
N. W. corner Hillman (*gate* 5′ 7″)	C.	144	10″
S. W. corner Bridge, 6″ (*gate* 8′ 10″)	Co.	144	6″
N. E. corner Taylor, 6″ (*gate* 3′ 8″)	Co.	144	10″
S. E. corner Lyman, 6″ (*gate* 3′ 4″)	Co.	144	10″
DYMON STREET.			
N. side, 218′ E. of Walnut	C.	87	6″
EAGLE STREET.			
N. W. corner Chestnut, 5″ s. con	C.	138	6″
EAST ALVORD AVENUE.			
N. E. corner Sumner, 6″ (*gate* 3′ 8″)	Co.	91	8″
E. side, 157′ N. of Alvord triangle, 6″ (*gate* 3′ 8″)	Co.	91	8″
EASTERN AVENUE.			
S. W. corner Wilbraham road	C.	83	12″
S. W. corner Tyler street	C.	84	12″
E. side, front of No. 251, opposite Lebanon street	C.	86	12″
S. W. corner Marshall place, 6″ (*gate* 4′ 7″)	Co.	91	8″
N. W. corner Hickory street, 6″ 3-way (*gate* 5′)	C.	96	8″
EAST HOOKER STREET.			
N. E. corner North Main, 6″	Co.	144	6″
EDDYWOODS AVENUE.			
E. side, 250′ N. of Sumner, 6″ (*gate* 6′ 6″)	Co.	90	6″
S. E. corner Plumtree road, 6″ (*gate* 4′ 8″)	Co.	90	6″
EDGELAND STREET.			
N. side, 420′ W. of Fort Pleasant avenue	C.	112	6″
EDGEMONT STREET.			
E. side, 575′ N. of State, 6″ 3-way (*gate* 3′ 8″)	C.	72	6″
EDWARDS STREET.			
N. side, 335′ W. of Elliott, in front of No. 40	P.	128	4″

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	Make.	Pressure.	Main Pipe.
ELEANOR ROAD.			
N. side, 350′ W. from White street, 6″ (*gate* 4′ 5″)	Co.	90	6″
ELIZABETH STREET.			
E. side, 5′ S. of Berkshire avenue, 6″ s. con	C.	79	6″
ELLIOTT STREET.			
E. side, 356′ N. of State, front of No. 35, 6″ s. con., r. g. (*gate* 5′)	C.	127	6″
W. side, 292′ S. of Edwards	C.	127	6″
E. side, 98′ S. of Edwards, front of No. 71, 6″ s. con., r. g. (*gate* 5′ 8″)	C.	127	6″
E. side, 9′ S. of Salem, 6″ s. con	C.	128	6″
ELM STREET.			
S. E. corner Court square, 8″ 4-way (*gate* 21′ 6″)	Co.	144	8″
S. W. corner Main, 6″ (*gate* 5′ 9″)	Co.	144	6″
S. W. corner Court square, 8″ 4-way (*gate* 8′ 5″)	Co.	144	8″
S. side, 18′ E. of Hall of Records	C.	144	6″
N. E. corner Water	C.	144	6″
N. side, 30′ W. of bridge abutment, 6″ s. con. (*gate* 7′)	C.	151	6″
ELMWOOD STREET.			
N. side, 10′ E. of Pecousic avenue, 6″ 3-way (*gate* 1′ 6″)	C.	147	6″
N. side, 8′ W. of Barney & Berry skate shop, 6″ s. con., r. g. (*gate* 4′ 6″)	C.	147	6″
EMERY STREET.			
S. W. corner Main, 6″ 3-way (*gate* 3′ 8″)	Co.	142	6″
N. side, opposite Gray's avenue	C.	143	8″
N. E. corner Boylston	C.	143	8″
N. E. corner Fulton	C.	143	8″
EMILY STREET.			
E. side, 400′ N. of Switzer avenue, 6″ (*gate* 4′ 7″)	Co.	78	6″
ERIE STREET.			
S. side, 400′ W. of Chicopee road, 6″ 3-way (*gate* 4′ 6″)	Co.	81	6″

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	Make.	Pressure.	Main Pipe.
Essex Street.			
N. E. corner Main, 6″ 3-way (*gate* 2′ 2″)	C.	143	10″
N. side, front of No. 36, 6″ 3-way (*gate* 2′)	C.	145	10″
N. side, 12′ W. of No. 66, 6″ 3-way (*gate* 1′ 9″)	C.	145	10″
N. side, front of No. 94, 6″ 3-way (*gate* 2′)	C.	145	10″
N. side, front of No. 124, 6″ 3-way (*gate* 2′)	C.	144	10″
N. W. corner Chestnut, 6″ 3-way (*gate* 3′ 2″)	C.	137	10″
Euclid Avenue.			
N. side, front of No. 58, 620′ W. of Dickinson street	C.	92	6″
N. side, 24′ W. of Dickinson street	C.	92	6″
N. side, 306′ E. of Dickinson street, 6″ 3-way (*gate* 5′)	C.	94	6″
Eureka Street.			
N. side, 7′ W. of Duryea, 6″ (*gate* 3′ 8″)	Co.	79	8″
Everett Street.			
S. side, 8′ E. of Chestnut	C.	139	6″
S. side, 550′ E. of Chestnut, 19′ W. of No. 57	C.	135	6″
S. W. corner Cass	C.	130	6″
Fairfield Street.			
N. side, front of No. 50	C.	93	6″
Fairview Street.			
N. W. corner Groveland, 6″ s. con	C.	90	6″
Farnsworth Street.			
S. side, front of No. 51	C.	83	6″
S. side, front of No. 133	C.	82	6″
Federal Street.			
W. side, 207′ S. of N. line of Lincoln	M.	89	16″
Ferry Street.			
S. E. corner Main	C.	143	6″
S. side, front of No. 89, 6″ (*gate* 2′ 10″)	Co.	144	6″
S. side, front of No. 155, 6″ s. con., r. g. (*gate* 2′ 6″)	C.	144	8″
S. side, front of No. 225, 6″ s. con., r. g. (*gate* 2′ 6″)	C.	143	8″

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	Make.	Pressure.	Main Pipe.
Firglade Avenue.			
E. side, 13′ N. of Spruceland, front of Nos. 47-49	C.	98	6″
E. side, 392′ S. of Pineywoods, opposite Nos. 138-140, 6″ 3-way (*gate* 5′ 6″)	C.	101	6″
Fisk Avenue.			
S. W. corner Wason, 6″ 4-way	C.	147	12″
S. W. corner Demond (*gate* 14′ 2″)	C.	147	12″
N. E. corner Holyoke Card & Paper Company's Office (*gate* 4′ 2″) on Grace street main	C.	147	12″
W. side, 38′ S. of Worcester	C.	147	8″
W. side, 6′ N. of Talcott, 6″ s. con. (*gate* 4′ 10″)	C.	147	8″
W. side, 10′ N. of Abbe, 6″ s. con., r. g. (*gate* 4′ 6″)	C.	147	8′
N. W. corner Rowland, 6″ (*gate* 4′ 8″)	Co.	147	8″
Five Mile Pond.			
W. of pump house, 12′ N. of S. line of pump house (*gate* 10′ W. of W. line of pump house)	C.	80	16″
Florence Street.			
N. E. corner Pine, 8″ 4-way (*gate* 3′)	Co.	90	10″
N. side, front of No. 34, 6″ (*gate* 3′ 4″)	Co.	90	10″
N. side, opposite Beech, 6″ (*gate* 3′)	Co.	90	10″
N. side, 138′ E. of Spruce, 6″ (*gate* 4′ 4″)	Co.	90	10″
N. side, 8′ W. of Hancock, 6″ (*gate* 2′ 7″)	Co.	90	10″
N. W. corner Walnut, 6″ 3-way (*gate* 1′ 6″)	C.	89	8″
Florida Street.			
S. W. corner St. James avenue, 6″ (*gate* 3′ 4″)	Co.	85	6″
S. W. corner Worthington	M.	86	6″
Forest Street.			
E. side, front of No. 51, 300′ N. of Forest Park avenue	C.	93	6″
Forest Park Avenue.			
N. side, 14′ E. of Fort Pleasant, 6″ (*gate* 6′ 4″)	Co.	116	24″
N. side, 16′ E. of Woodside terrace, 6″ (*gate* 6′ 10″)	Co.	109	24″

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FOREST PARK AVENUE—(*Continued*).	Make.	Pressure.	Main Pipe.
N. side, 389′ E. of Woodside terrace, 6″ (*gate* 6′ 10″)	Co.	103	24″
N. E. corner Sumner	C.	95	6″
W. side, 2′ N. of Pineywoods	C.	98	6″
FORT STREET.			
S. side, front of No. 37	C.	144	6″
S. E. corner Water	C.	144	6″
FORT PLEASANT AVENUE.			
E. side, at Belmont, 19′ S. of concrete steps, 6″ (*gate* 4′)	Co.	129	8″
FOSTER STREET.			
S. W. corner Central, 6″ s. con	C.	91	6″
N. E. corner Greenacre square, 6″ (*gate* 2′ 7″)	Co.	97	6″
FRANKLIN STREET.			
S. side, 12′ E. of Main, 6″ s. con. (*gate* 3′ 2″)	Co.	143	8″
S. side, front of No. 37	C.	145	8″
S. side, front of No. 73	C.	145	8″
S. side, front of No. 113	C.	145	8″
S. W. corner Chestnut	C.	137	8″
N. side, 9′ E. of No. 170, 6″ s. con	C.	135	6″
N. side, 482′ W. of E. line of Cass, 6″	C.	133	6″
FREMONT STREET.			
S. W. corner Main, 1-way	C.	146	6″
S. side, 350′ E. of Water, 6″ (*gate* 3′)	Co.	146	6″
FRESNO STREET.			
E. side, 384′ S. of Page boulevard, 6″ (*gate* 3′ 3″)	Co.	79	6″
*E. side, 194′ N. of Eureka, 6″ (*gate* 3′ 8″)	Co.	79	6″
FULTON STREET.			
E. side, 16′ S. of No. 19, 6″ 3-way (*gate* 2′ 2″)	C.	143	36″
E. side, front of No. 39, 6″ 3-way (*gate* 1′ 9″)	C.	143	36″
E. side, 2′ N. of Emery, 8″ 4-way (*gate* 1′ 9″)	C.	143	36″
E. side, 6′ N. of Clinton, 8″ 4-way (*gate* 1′ 9″)	C.	144	36″

*Set since December 1.

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FULTON STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
E. side, 5′ N. of Vine, 6″ 3-way (*gate* 2′)	C.	143	36″
E. side, 8′ N. of Holyoke, 6″ 3-way (*gate* 1′ 8″)	C.	143	36″
E. side, 8′ N. of Auburn, 8″ 4-way (*gate* 6′ 11″)	C.	143	36″
E. side, 8′ N. of Sargeant, 8″ 4-way (*gate* 1′ 10″)	C.	142	36″
E. side, 13′ N. of Bradford, 6″ 3-way (*gate* 3′)	C.	142	36″
N. E. corner John, 6″ 3-way (*gate* 3′ 2″)	C.	142	36″
E. side, 13′ N. of Plymouth, 6″ 3-way (*gate* 3′)	C.	141	36″
E. side, front of No. 287, 6″ 3-way (*gate* 2′ 7″)	C.	141	36″
N. E. corner Plainfield, 6″ 3-way (*gate* 18′ 1″)	C.	140	36″
GARDNER STREET.			
N. side, 138′ W. of Main, 6″ (*gate* 5′ 10″)	Co.	147	10″
N. side, 112′ E. of Gardner avenue, 6″ (*gate* 7′ 9″)	Co.	147	10″
N. side, opposite Hanover, 8″ 4-way (*gate* 7′ 9″)	Co.	146	10″
GARFIELD STREET.			
N. side, 36′ E. of Forest Park avenue, 6″ (*gate* 6′ 6″)	Co.	93	24″
N. side, 25′ W. of Oakland, 6″ (*gate* 6′ 11″)	Co.	93	24″
GOLD STREET.			
N. side, 280′ E. of Armory	C.	88	6″
GOLDENROD STREET.			
E. side, 236′ S. of Bay, 6″ (*gate* 3′ 3″)	Co.	70	6″
GORDON STREET.			
N. side, 3′ W. of White, 6″ (*gate* 4′)	Co.	90	6″
N. side, 92′ E. of W. line of Pasadena, 6″ (*gate* 4′ 8″)	Co.	92	6″
GOVERNOR STREET.			
N. side, 440′ E. of Armory, 58′ E. of No. 37, 6″ 3-way (*gate* 5′)	Co.	85	6″
N. side, 14′ E. of No. 90, 6″ (*gate* 4′)	Co.	85	6″
GRACE STREET.			
S. W. corner North Main, 6″ (*gate* 2′ 6″)	Co.	145	12″
GRAND STREET.			
N. side, 100′ W. of Wareham, opposite No. 89, 6″ s. con	C.	90	6″

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	Make.	Pressure.	Main Pipe.
GRANT STREET.			
N. side, 11′ E. of Armory	C.	87	4″
GRANVILLE STREET.			
N. side, 5′ W. of Logan	C.	85	6″
GRAY'S AVENUE.			
W. side, 2′ N. of No. 30	C.	143	6″
GREENACRE SQUARE.			
W. side, rear No. 45 Foster street, 4″ 1-way	C.	96	6″
GREENBRIER STREET.			
E. side, at Trillium, 6″ (*gate* 2′ 6″)	Co.	90	6″
GREENE STREET.			
N. W. corner Nelson	C.	87	6″
N. side, 50′ W. of Monson avenue	C.	87	6″
N. side, 3′ W. of Eastern avenue	C.	87	6″
GREEN LANE.			
N. side, midway lane, 6″ s. con., r. g.	C.	87	6″
GREENLEAF STREET.			
E. side, 2′ S. of Garfield, 6″ (*gate* 3′ 4″)	Co.	93	6″
N. E. corner Sumner avenue	C.	94	6″
GREENWICH STREET.			
N. side, 2′ W. of No. 32, 6″ s. con	C.	145	6″
GREENWOOD STREET.			
N. E. corner Main, 6″ 3-way (*gate* 6′ 2″)	Co.	145	6″
N. side, 10′ E. of No. 42	C.	146	6″
N. side, 5′ E. of No. 76	C.	145	6″
N. side, 6′ E. of No. 118	C.	145	6″
GRENADA TERRACE.			
W. side, 7′ N. of Dickinson street, 6″ s. con	C.	92	6″
In terrace, 105′ W. of Ventura street, 6″ (*gate* 3′)	Co.	91	6″
In terrace, 60′ W. of Sorrento street, 6″ (*gate* 3′)	Co.	91	6″

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Grosvenor Street.	Make.	Pressure.	Main Pipe.
N. side, 3′ E. of North	C.	144	6″
N. side, 370′ W. of Chestnut	C.	143	6″
N. W. corner Chestnut	C.	142	6″
Grove Street.			
N. E. corner North Main	C.	144	6″
Groveland Street.			
N. E. corner Dickinson, 6″ s. con	C.	90	6″
Grover Street.			
N. side, 7′ W. of Liberty, 6″ s. con	C.	84	6″
N. side, 700′ W. of Liberty, 9′ W. of No. 70, 6″	C.	86	6″
Gunn Square.			
N. side, 6′ E. of Northampton avenue, 6″ 3-way (*gate* 4′ 4″)	C.	90	6″
Hall Street.			
W. side, 7′ N. of Belmont avenue	C.	92	6″
W. side, 510′ N. of Belmont avenue, front of No. 50	C.	92	6″
W. side, 4′ S. of Dickinson	C.	92	6″
Hamburg Street.			
N. W. corner Farnsworth (*gate* 2′ 8″)	C.	83	6″
Hampden Street.			
N. side, 132′ W. of Main, 6″ s. con., r. g. (*gate* 27′ 9″)	C.	144	8″
Hancock Street.			
S. E. corner State, 8″ 4-way (*gate* 26′)	C.	85	30″
E. side, 2′ N. of Monroe, 6″ (*gate* 6′ 4″)	Co.	85	30″
E. side, 4′ N. of Union, 6″ (*gate* 6′ 10″)	Co.	85	30″
E. side, 2′ N. of Quincy, 6″ (*gate* 7′ 2″)	Co.	85	30″
E. side, 2′ S. of Tyler, 6″ (*gate* 7′ 2″)	Co.	86	30″
E. side, 4′ S. of Pendleton avenue, 6″ (*gate* 7′ 2″)	Co.	86	30″
E. side, 8′ S. of King, 6″ (*gate* 6′ 8″)	Co.	86	30″
E. side, 4′ S. of Lebanon, 6″ (*gate* 6′ 10″)	Co.	87	24″
E. side, 6′ S. of Greene, 6″ (*gate* 7′)	Co.	87	24″

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HANCOCK STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
E. side, 11′ N. of Alden, 6″ (*gate* 6′ 6″)	Co.	88	24″
N. W. corner Clark	C.	92	6″
W. side, 11′ S. of No. 490	C.	116	6″
W. side, 18′ N. of Mill, opposite No. 521, 6″ 3-way (*gate* 3′ 10″)	C.	118	6″
HANOVER STREET.			
E. side, 11′ N. of Broad	C.	147	8″
HARRIET STREET.			
N. side, 129′ E. of North Main, 6″ 3-way (*gate* 3′ 5″)	Co.	145	6″
N. E. corner North, 6″ s. con	C.	144	6″
HARRISON AVENUE.			
N. E. corner Main street, 6″ s. con., r. g. (*gate* 6′ 7″)	C.	144	12″
S. W. corner Market street	C.	144	6″
N. side, opposite Market street, 6″ (*gate* 9′)	Co.	144	12″
N. side, front of No. 44, 8″ 4-way (*gate* 9′ 6″)	Co.	144	12″
S. side, 116′ W. of Dwight street, 6″ (*gate* 18′ 7″)	Co.	144	6″
S. side, 2′ W. of Dwight street	C.	143	6″
N. W. corner Dwight street, 6″ 4-way (*gate* 9′ 4″)	C.	143	12″
HARVARD STREET.			
S. E. corner St. James avenue	C.	83	6″
S. side, 129′ W. of Amherst, front of No. 48	C.	83	6″
HARVEY STREET.			
N. E. corner Boston road	C.	77	4″
E. side, 28′ N. of No. 58	C.	77	4″
HAWLEY STREET.			
S. E. corner State, 6″ (*gate* 4′ 2″)	Co.	84	8″
HAWTHORNE STREET.			
N. W. corner Hancock	C.	90	4″
N. side, 260′ E. of Spruce	C.	90	4″
HAYDEN AVENUE.			
E. side, 430′ N. of State street, 7′ N. of No. 41	P.	84	4″

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Hobson Street.	Make.	Pressure.	Main Pipe.
N. side, 4′ W. of Chestnut	C.	142	6″
N. side, 11′ E. of No. 34	C.	144	6″
Hickory Street.			
N. E. corner Walnut, 8″ 4-way (*gate* 11′)	Co.	103	8″
N. side, 405′ W. of Eastern avenue, 13′ E. of No. 110, 6″ s. con	C.	101	4″
N. side, 179′ W. of Eastern avenue, 4′ E. of No. 130, 6″ s. con. (*gate* 4′ 5″)	C.	98	4″
W. side, 273′ N. of railroad tracks	C.	90	4″
W. side, 336′ S. of N. line of Alden, 6″ s. con., r. g. (*gate* 5′)	C.	88	8″
N. E. corner Woodbine avenue	C.	87	4″
High Street.			
S. side, 360′ W. of School, 6″ s. con	C.	122	6″
N. side, 4′ E. of Myrtle, 6″ (*gate* 3′ 6″)	Co.	112	8″
S. E. corner Ingraham avenue, 6″ s. con. (*gate* 26′ 8″)	C.	94	8″
N. side, front of No. 168, 6″ (*gate* 4′ 8″)	Co.	90	8″
N. side, 27′ W. of Woodworth avenue, 6″ (*gate* 3′ 4″)	Co.	88	8″
N. side, 8′ W. of Walnut, 6″ (*gate* 3′)	Co.	87	8″
Highland Street.			
N. side, 19′ W. of No. 23, 6″ (*gate* 3′ 2″)	Co.	85	6″
Highland Terrace.			
E. side, 20′ N. of Jennette avenue, 6″ (*gate* 4′)	Co.	79	10″
Hillman Street.			
N. E. corner Main, 6″ s. con., r. g. (*gate* 14′ 2″)	C.	144	8″
N. W. corner Barnes, 8″ 4-way (*gate* 4′ 9″)	Co.	144	8″
Hobson Street.			
E. side, 8′ S. of Berkshire avenue, 6″ s. con. (*gate* 4′ 8″)	C.	78	8″
N. E. corner Bagley, 6″ (*gate* 6′ 4″)	Co.	78	6″

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	Make.	Pressure.	Main Pipe.
Hollywood Street.			
N. side, 4′ E. of Dickinson, 6″ s. con	C.	90	6″
N. side, 244′ E. of Commonwealth avenue, 6″ (*gate* 4′)	Co.	90	8″
Holyoke Street.			
N. W. corner Main	C.	142	6″
N. side, front of No. 44	C.	141	6″
Home Street.			
N. side, 103′ W. of No. 20, 6″ s. con. (*gate* 5′ 3″)	Co.	83	6″
Homer Street.			
E. side, 7′ N. of Wilbraham road, 6″ (*gate* 9′ 2″)	Co.	83	6″
Hooker Street.			
N. side, 281′ E. of Birnie avenue, 6″ s. con. (*private*)	C.	148	6″
N. side, 14′ E. of Birnie avenue, 6″ s. con. (*private*)	C.	148	6″
N. side, 160′ W. of Birnie avenue, 6″ s. con. (*private*)	C.	148	6″
Howard Street.			
S. W. corner Main, 6″ (*gate* 13′ 8″)	Co.	145	6″
S. side, front of No. 43	C.	145	6″
S. side, 310′ W. of Water, 8″ 4-way (*gate* 5′)	Co.	146	8″
S. side, 425′ W. of Water, 6″ 3-way (*gate* 2′ 6″)	C.	146	8″
Hubbard Avenue.			
S. E. corner Main street	C.	146	6″
Hunt Terrace.			
E. side, 190′ N. of Allen street	C.	91	4″
Hunter Place.			
W. side, 285′ N. of State street, 6″ s. con	C.	83	6″
W. side, 610′ N. of State street, front of No. 66, 6″ (*gate* 4′ 4″)	Co.	83	6″
Huntington Street.			
N. side, 13′ W. of North Main, 6″ 3-way (*gate* 5′ 9″)	Co.	144	6″
N. side, opposite Nos. 31-33, 6″ (*gate* 3′ 3″)	Co.	144	6″
N. E. corner Birnie avenue, 6″ s. con	C.	147	6″

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Hyde Avenue.	Make.	Pressure.	Main Pipe.
S. E. corner Plainfield street	C.	147	6″
S. W. corner Fisk	C.	147	6″
Ingersoll Grove.			
E. side, 237′ N. of Worthington street, 6″ (*gate* 4′ 8″)	Co.	86	30″
E. side, 7′ N. of McKnight Glen, 6″ (*gate* 4′ 10″)	Co.	87	6″
N. side, 300′ N. of McKnight Glen, front of No. 79	C.	87	6″
Irvington Street.			
E. side, 350′ S. of Sumner avenue, 6″ s. con	C.	90	6″
E. side, at park, 6″ (*gate* 6′ 11″)	Co.	90	6″
James Street.			
N. W. corner Walnut, 6″ (*gate* 3′ 4″)	Co.	87	6″
E. side, 13′ S. of Nos. 44-46	C.	88	4″
Jasper Street.			
E. side, opposite No. 58, 6″ (*gate* 7′ 10″)	Co.	79	6″
Jefferson Avenue.			
S. side, 11′ E. of No. 33, 6″ s. con. (*gate* 8′ S.)	C.	144	12″
N. side, front of No. 32, 6″ 3-way (*gate* 10′ 2″ N.)	C.	144	36″
S. W. corner North street	C.	144	12″
N. W. corner North street, 6″ 3-way (*gate* 5′ 10″)	C.	144	6″
N. side, opposite No. 111, 146′ W. of Chestnut street, 6″ 3-way (*gate* 10′ 1″ N.)	C.	142	36″
Jennette Avenue.			
N. side, on E. line office building of Millett Brass Company, 6″ (*gate* 3′ 6″)	Co.	79	12″
N. side, 258′ E. of preceding hydrant, 6″ (*gate* 3′ 6″)	Co.	79	12″
John Street.			
S. W. corner Plainfield	C.	141	4″
S. side, front of No. 31, 6″ s. con. (*gate* 2′ 3″)	C.	141	6″

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JOHNSON STREET.	Make.	Pressure.	Main Pipe.
N. side, 500′ E. of Dickinson, 6″ (*gate* 5′)	C.	92	6″
N. side, 3′ W. of Earl, 6″ (*gate* 4′ 6″)	Co.	92	6″
N. side, 7′ W. of Ranney	P.	92	6″
KEITH STREET.			
W. side, 18′ N. of Belmont avenue	C.	92	6″
W. side, 540′ N. of Belmont avenue, front of No. 53	C.	92	6″
W. side, 3′ S. of Dickinson	C.	92	6″
KENSINGTON AVENUE.			
N. side, 8′ E. of Oakland street, 6″ s. con	C.	91	6″
N. side, 8′ W. of Earl street, 6″ s. con	C.	91	6″
N. side, 2′ W. of Ranney street, 6″ (*gate* 4′ 6″)	Co.	91	6″
KENWOOD PARK.			
W. side, 6′ N. of Belmont avenue, 6″ (*gate* 2′ 9″)	Co.	92	6″
W. side, 400′ S. of Dickinson street, 6″ s. con	C.	92	6″
W. side, 10′ S. of Dickinson street, 6″ s. con	C.	92	6″
KENWOOD TERRACE.			
E. side, 194′ S. of Belmont avenue, 6″ (*gate* 4′ 6″)	Co.	92	6″
E. side, 4′ N. of Sumner avenue, 6″ (*gate* 5′ 2″)	Co.	92	6″
KING STREET.			
N. side, 30′ E. of No. 42	C.	87	4″
N. side, 15′ W. of Nelson	C.	86	6″
N. side, 106′ E. of Prince, 6″ s. con. (*gate* 5′ 5″)	Co.	86	6″
N. side, 2′ W. of Eastern avenue	C.	86	6″
N. W. corner Logan	C.	85	6″
N. side, 5′ W. of Westford avenue, 6″ s. con	C.	88	6″
KNOX STREET.			
E. side, 12′ S. of No. 49, 6″ s. con., r. g. (*gate* 4′ 4″)	C.	109	6″
LADD STREET.			
N. side, 16′ W. of Logan	C.	87	6″
LAKESIDE AVENUE.			
E. side, 120′ S. of Crest street, 6″ (*gate* 5′ 2″)	Co.	83	6″

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	Make.	Pressure.	Main Pipe.
LANGDON STREET.			
N. side, 160′ W. of No. 58, 6″ (*gate* 5′ 4″)	Co.	83	6″
LEBANON STREET.			
N. side, 209′ W. of Hancock, 6″ (*gate* 3′ 6″)	Co.	87	16″
N. side, 2′ W. of Nelson	C.	87	6″
N. side, 7′ E. of W. line of Merrick avenue	C.	87	6″
LEDYARD STREET.			
N. side, 242′ W. of Armory, 6″ s. con. (*gate* 4′)	C.	98	6″
LENOX STREET.			
E. side, front of No. 43, 6″ s. con	C.	92	6″
LESTER STREET.			
E. side, 445′ N. of Sumner avenue, 6″ s. con. (*gate* 4′ 10″)	Co.	90	6″
LEYFRED TERRACE.			
E. side, 30′ N. of Belmont avenue, 6″ s. con	C.	112	6″
E. side, 516′ N. of Belmont avenue, front of Nos. 57-59, 6″ s. con	C.	110	6″
LEXINGTON AVENUE.			
N. side, 2′ W. of Massasoit street	C.	135	6″
LIBERTY STREET.			
S. E. corner Main, 6″ s. con	C.	144	6″
S. side, 28′ E. of driveway to depot	C.	145	6″
S. side, 97′ E. of driveway to depot	C.	145	6″
S. side, 43′ W. of North, 5″ s. con	C.	145	6″
S. side, 131′ E. of preceding	C.	144	6″
S. side, 99′ W. of Chestnut, 6″ (*gate* 9′ 6″)	Co.	142	6″
S. E. corner Chestnut	C.	136	6″
S. E. corner Charles	C.	135	6″
N. side, 206′ E. of Charles	C.	135	8″
S. side, 496′ E. of Charles, front of West Box Co., 6″ s. con. (*gate* 7′)	C.	135	8″
S. side, opposite Cass	C.	128	8″
S. side, opposite Webster	C.	124	8″

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LIBERTY STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
S. side, 12′ W. of Heywood	C.	119	8″
S. side, 85′ W. of Tracy avenue, 6″ s. con	C.	109	8″
N. W. corner Genesee, 6″ s. con. (*gate* 33′ 8″)	C.	103	8″
E. side, 12′ N. of Ledyard, 6″ s. con. (*gate* 4′ 4″)	C.	96	8″
E. side, 275′ S. of Armory, 6″ s. con. (*gate* 5′ 8″)	C.	91	8″
N. W. corner Armory, 6″ (*gate* 3′ 5″)	Co.	90	8″
W. side, front of Nos. 640-642, 6″ 3-way (*gate* 3′ 5″)	C.	87	8″
W. side, front of Nos. 682-684, 6″ 3-way (*gate* 3′)	C.	86	8″
W. side, 13′ N. of Carew, 6″ s. con., r. g. (*gate* 4′)	C.	84	8″
W. side, 13′ N. of Woodmont, 6″ s. con., r. g. (*gate* 3′ 8″)	C.	83	8″
W. side, 31′ N. of Home, 6″ s. con. (*gate* 4′ 9″)	C.	83	8″
W. side, 150′ N. of Wentworth avenue, 6″ 3-way (*gate* 5′)	C.	83	8″
W. side, 4′ N. of No. 1015, 6″ 3-way (*gate* 5′)	Co.	83	8″
LILLIAN STREET.			
N. side, front of No. 18, 212′ W. of Orleans	C.	86	4″
LINCOLN STREET.			
N. E. corner Federal	P.	87	6″
N. side, 5′ W. of Magazine, 5″ s. con	C.	89	6″
LINDEN STREET.			
S. side, 6′ E. of Chestnut (*gate* 3′ 2″)	C.	137	6″
S. side, 37′ W. of No. 61 (*gate* 4′ 4″)	C.	135	6″
S. side, 8′ W. of Cass (*gate* 4′)	C.	130	6″
LITCHFIELD STREET.			
E. side, 6′ S. of Belmont avenue	C.	92	6″
E. side, 2′ N. of Garfield, 6″ (*gate* 4′ 9″)	C.	92	6″
LITTLE RIVER SUPPLY MAIN.			
In yard of U. S. Whip Co., Westfield, 6″ (*private*)	Co.		42″
LOCUST STREET.			
E. side, 4′ N. of Warriner avenue, 6″ (*gate* 4′ 10″)	Co.	138	12″
LOMBARD STREET.			
N. side, front of No. 26	C.	147	4″

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Longfellow Terrace.	Make.	Pressure.	Main Pipe.
N. side, 273′ W. from White street, 6″ s. con. (*gate* 5′)	Co.	90	6″

Longhill Street.			
E. side, front of No. 49	C.	109	8″
S. E. corner Warner	C.	98	8″
E. side, 6′ N. of Spruceland avenue	C.	97	8″
*E. side, 9′ N. of Cherryvale avenue, 6″ (*gate* 7′ 2″)	Co.	98	8″
E. side, 139′ N. of Washington boulevard, 10′ S. of No. 321, 6″ s. con., r. g. (*gate* 6′ 3″)	C.	102	6″
S. side, 62′ E. of Barney's driveway, 6″ s. con., r. g.	C.	120	6″

Loring Street.			
N. W. corner Main	C.	147	8″
N. side, 2′ E. of No. 36	C.	147	8″
N. side, 2′ E. of Water, 6″ s. con., r. g. (*gate* 6′)	C.	147	8″

Los Angeles Avenue.			
S. side, 6′ E. of Hamburg street	C.	81	6″
S. side, front of Nos. 45-47	C.	83	6″

Lowell Street.			
N. side, 12′ W. of Plainfield	C.	148	6″
N. side, front of No. 56	C.	149	6″
N. side, front of No. 132, 6″ s. con. (*gate* 2′ 6″)	C.	149	6″

Lyman Street.			
N. E. corner Main, 6″ s. con., r. g. (*gate* 9′ 6″)	C.	144	6″
N. side, 292′ E. of Main	P.	144	6″
N. side, N. W. corner of driveway to station	C.	144	6″
N. side, 224′ W. of Dwight, 6″ 3-way (*gate* 9′ 6″)	Co.	144	8″
N. side, opposite Dwight	C.	143	8″
N. side, 14′ W. of Chestnut, 6″ s. con., r. g. (*gate* 7′)	C.	141	8″
N. side, 366′ W. of Spring, r. g. (*gate* 6′ 2″)	C.	136	6″
N. side, 6′ W. of Spring	C.	134	6″

*Set since December 1, replacing 6″ Chapman.

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	Make.	Pressure.	Main Pipe.
LYNDALE STREET.			
E. side, 350′ S. of Sumner avenue, 6″ (*gate* 5′)	C.	91	8″
E. side, 340′ N. of Belmont avenue, 6″ s. con., r. g. (*gate* 4′ 8″)	C.	91	8″
MADISON AVENUE.			
E. side, at angle, 6″ 3-way (*gate* 3′ 3″)	Co.	90	6″
MAGAZINE STREET.			
W. side, 15′ N. of Grant	C.	88	4″
MAGNOLIA TERRACE.			
Center of terrace, 4′ S. of Sumner avenue	C.	96	6″
E. side, 285′ N. of Pineywoods avenue	C.	100	6″
E. side, 12′ N. of Washington boulevard, 6″ (*gate* 8′ 10″)	Co.	103	6″
MAIN STREET.			
S. E. corner Carew (*gate* 17′ 6″ N. W.)	C.	144	16″
S. E. corner Patton (*gate* 15′ 9″)	C.	144	16″
N. E. corner Franklin, 8″ 4-way (*gate* 4′)	Co.	143	16″
W. side, 30′ S. of Congress, 8″ 4-way (*gate* 6′ W. of E. curb)	Co.	143	16″
S. E. corner Sharon (*gate* 10′ 11″ N. W.)	C.	143	16″
E. side, front of No. 217 (*gate* 4′ S.)	C.	144	16″
E. side, 30′ S. of arch, opposite Railroad	C.	145	16″
E. side, front of No. 263, 6″ s. con	Co.	144	16″
E. side, opposite Fort	C.	144	16″
W. side, 3′ S. of Hampden, 6″ 3-way (*gate* 9′ 2″)	Co.	144	12″
W. side, front of No. 360, 9′ N. of Hillman, 6″ s. con. (*gate* 10′)	C.	144	12″
W. side, 16′ N. of Vernon, 6″ s. con. (*gate* 11′)	C.	144	12″
E. side, opposite Vernon, 85′ N. of Harrison avenue, 8″ 4-way (*gate* 4′ 8″)	Co.	144	16″
S. E. corner Harrison avenue (*gate* 30′ 10″ N. W.)	C.	144	16″
E. side, opposite Pynchon, 6″ r. g. (*gate* 3′)	C.	144	16″
E. side, front of No. 415, 6″ s. con. (*gate* 7′)	Co.	144	16″
E. side, 3′ S. of East Court, 6″ s. con., r. g. (*gate* 18′ 2″)	C.	144	16″
E. side, 107′ N. of Sanford, 8″ 4-way (*gate* 7′ 5″)	Co.	144	16″

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MAIN STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
S. E. corner Stockbridge	C.	144	16″
E. side, 16′ S. of Crossett avenue	C.	144	16″
E. side, 2′ S. of Cross	C.	144	16″
N. W. corner Howard (*gate* 18′ W. of E. curb in Main, 16′ 6″ S. of N. line of Howard)	P.	145	12″
E. side, 2′ N. of Park	C.	146	12″
N. W. corner Wilcox (*gate* 12′ from E. curb in Main, 16′ 8″ S. of N. line of Wilcox)	C.	146	12″
E. side, 2′ N. of Winthrop	C.	147	12″
N. W. corner Margaret (*gate* 13′ 9″ from E. curb in Main, 25′ 6″ S. of N. line of Margaret)	C.	147	12″
S. E. corner Adams, 6″	C.	146	12″
E. side, opposite Lombard, 6″	C.	147	12″
E. side, opposite Arlington court, 6″	C.	147	12″
E. side, 14′ S. of Gardner, 6″	C.	147	12″
E. side, 10′ N. of Marble, 6″ s. con. (*gate* 2′ 5″)	C.	147	12″
E. side, 8′ N. of Rutledge avenue, 6″ s. con	C.	147	12″
E. side, 5′ N. of Acushnet avenue, 6″ s. con. (*gate* 1′ 10″)	C.	147	12″
E. side, 30′ W. of Locust, 8″ 4-way (*gate* 33′ 6″)	Co.	147	10″
W. side, 352′ N. of S. line of Mill, 6″ (*gate* 7′ 8″)	Co.	146	10″
W. side, 90′ N. of S. line of Mill, 6″ (*gate* 7′ 2″)	Co.	146	10″
E. side, 148′ S. of Mill, 6″ (*gate* 4′ 4″)	Co.	146	12″
E. side, 60′ S. of Bemis & Call's office building, 6″ (*gate* 9′ 6″)	Co.	147	12″
S. side, 123′ E. of W. line of Longhill, 6″ (*gate* 8′ 3″)	Co.	147	12″
E. side of Pecousic avenue, at Main, 6″ 3-way (*gate* 13′ 4″)	C.	147	8″
E. side, 70′ N. of South End bridge, 6″ s. con. (*gate* 3′ 8″)	C.	145	6″
MALDEN STREET.			
E. side, 6′ S. of Allen, 6″ (*gate* 5′)	Co.	93	6″
E. side, 400′ S. of Allen, 8′ N. of No. 45, 6″ (*gate* 5′)	Co.	90	6″
E. side, 7′ N. of Grand, 6″ s. con	C.	90	6″
E. side, 200′ N. of Orange, 6″ (*gate* 6′ 10″)	Co.	90	6″

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	Make.	Pressure.	Main Pipe.
MANHATTAN STREET.			
N. side, 12′ W. of Eastern avenue, 6″ 3-way (*gate* 4′ 2″)	C.	90	6″
N. side, 530′ W. of Eastern avenue, opposite No. 49	C.	89	6″
N. side, 4′ E. of Walnut	C.	88	6″
MANSFIELD STREET.			
N. side, at Nos. 42-44, 6″ (*gate* 4′ 6″)	Co.	90	6″
MAPLE COURT.			
S. side, 360′ E. of Maple street, 6″ s. con	C.	92	6″
MAPLE STREET.			
W. side, 67′ S. of Temple, 6″ s. con. (*gate* 6′ 1″)	C.	129	6″
W. side, opposite High	C.	126	6″
W. side, 8′ S. of Park, 6″ s. con	C.	128	6″
W. side, 267′ S. of N. line of Union, 6″ s. con	C.	125	6″
S. E. corner Mulberry	C.	122	8″
W. side, 170′ S. of Mulberry, 6″ s. con	C.	122	6″
N. E. corner Avon place, 6″ (*gate* 3′ 7″)	Co.	123	8″
E. side, 400′ S. of Central, 6″ (*gate* 8′ 4″)	Co.	103	10″
E. side, 761′ S. of Central, 6″ s. con., r. g. (*gate* 8′ 7″)	C.	93	10″
E. side, 15′ N. of Maple court, 6″ (*gate* 8′ 7″)	Co.	92	10″
E. side, 30′ N. of Crescent Hill avenue, 6″ (*gate* 8′ 6″)	Co.	91	10″
E. side, front of No. 385, 6″ s. con., r. g. (*gate* 5′ 9″)	C.	98	16″
MAPLEDELL STREET.			
E. side, 3′ N. of State, 6″ s. con	C.	84	6″
E. side, 500′ N. of State, 6′ N. of No. 49, 6″ (*gate* 6′ 6″)	Co.	84	6″
S. E. corner Burr, 5″ s. con	C.	86	6″
MAPLEWOOD TERRACE.			
N. E. corner Fort Pleasant avenue, 6″ s. con	C.	103	6″
*In terrace, near No. 30, 6″ (*gate* 5′ 3″)	Co.	100	6″
†N. W. corner Randolph street, 5″ s. con	C.	95	6″
*In terrace, 8′ W. of Washington road, 6″ (*gate* 5′)	Co.	94	6″
N. W. corner Forest Park avenue, 5″ s. con	C.	94	6″

*Set since December 1.
†Taken out since December 1.

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	Make.	Pressure.	Main Pipe.
MARBLE STREET.			
N. side, 4′ E. of Main, 6″ 3-way (*gate* 7′ 8″)	Co.	147	8″
*N. side, 500′ E. of Main, front of No. 58, 6″ (*gate* 6′)	Co.	146	8″
N. side, front of No. 108, 6″ s. con	C.	143	8″
MARENGO PARK.			
N. side, 10′ W. of Dickinson street, 6″ s. con. (*gate* 6′ 8″)	C.	92	6″
N. side, 3′ E. of La Verne street, 6″ s. con	C.	91	6″
MARGARET STREET.			
S. W. corner Main, 6″ (*gate* 6′ 10″)	Co.	146	6″
S. side, 410′ E. of Water, 8′ E. of No. 41, 6″ (*gate* 5′ 7″)	Co.	146	6″
N. side, 500′ W. of Water, 6″ s. con. (*gate* 22′ 5″)	Co.	144	6″
MARGERIE STREET.			
N. E. corner State, 6″ (*gate* 4′ 6″)	Co.	74	24″
MARION STREET.			
W. side, 6′ N. of Pease	C.	85	6″
E. side, 8′ N. of No. 157	C.	83	6″
MARKET STREET.			
W. side, 4′ S. of Sanford	C.	144	6″
W. side, 3′ N. of East Court, 6″ 3-way (*gate* 8′ 3″)	C.	144	6″
MARSHALL PLACE.			
S. side, at Melrose court, 6″ (*gate* 9′)	Co.	93	6″
MASON PLACE.			
W. side, 400′ S. of Dickinson street, 6″ s. con	C.	92	6″
MASON STREET.			
E. side, 312′ N. of State	C.	84	6″

*Set since December 1, replacing 6″ Chapman.

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Massachusetts Avenue.	Make.	Pressure.	Main Pipe.
Center of terrace, 36′ S. of Wilbraham road, 6″ s. con., r. g. (*gate* 4′ 6″)	C.	83	6″
Center of terrace, 400′ S. of Wilbraham road, front of No. 43, 6″ s. con., r. g. (*gate* 3′ 4″)	C.	84	8″
Center of terrace, front of No. 80, 6″ (*gate* 3′ 4″)	Co.	84	8″
Center of terrace, S. of No. 112, 6″ (*gate* 3′ 2″)	Co.	85	8″
Center of terrace, 5′ S. of Westford circle, 6″ (*gate* 3′ 4″)	Co.	90	8″
Massasoit Place.			
N. side, 236′ E. of Massasoit street, 6″ 3-way (*gate* 3′ 9″)	C.	129	6″
Massasoit Street.			
W. side, 15′ S. of No. 48, 6″ s. con. (*gate* 3′ 6″)	C.	133	6″
W. side, 333′ S. of Lexington avenue, 6″ s. con. (*gate* 1′ 8″)	C.	133	6″
Mattoon Street.			
S. side, 298′ W. of Elliott, 6″ s. con. (*gate* 5′ 10″)	Co.	130	6″
Maynard Street.			
W. side, 190′ N. of State	C.	83	6″
S. W. corner Shattuck, 6″ (*gate* 9′ 9″)	Co.	83	6″
E. side, 500′ S. of Acorn, 31′ S. of No. 160, 6″ 3-way (*gate* 5′)	C.	83	6″
McKnight Street.			
N. side, 8′ W. of Girard avenue	C.	83	6″
Mechanic Street.			
N. side, 75′ E. of railroad tracks	C.	145	6″
Medford Street.			
N. side, opposite Nos. 31-33, 6″ (*gate* 3′ 2″)	Co.	147	6″
N. E. corner Birnie avenue, 6″ s. con., r. g. (*gate* 4′)	C.	147	6″
Melrose Street.			
N. W. corner Eastern avenue, 5″ s. con	C.	92	6″
N. side, 285′ W. from Eastern avenue, 5″ s. con.	C.	94	6″

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	Make.	Pressure.	Main Pipe.
MERRICK AVENUE.			
E. side, 216′ N. of Lebanon street, 6″ (*gate* 5′)	Co.	86	6″
MERWIN STREET.			
N. W. corner Chestnut, 5″ s. con	C.	137	6″
MIDDLESEX STREET.			
E. side, 4′ S. of Wilbraham road	C.	83	6″
E. side, 370′ N. of Marlborough, 4′ S. of No. 35, 6″ (*gate* 5′)	Co.	83	6″
E. side, 200′ S. of preceding, 6″ (*gate* 4′)	Co.	83	6″
MILL STREET.			
S. side, 31′ W. of fire engine house, 6″ (*gate* 5′)	Co.	142	12″
N. side, 7′ E. of Locust, 8″ 4-way (*gate* 4′ 9″)	Co.	135	16″
N. side, 13′ E. of No. 76, 6″ (*gate* 4′)	Co.	126	16″
N. side, front of No. 120, 6″ (*gate* 4′)	Co.	118	16″
S. side, 9′ E. of No. 185, 6″ s. con., r. g. (*gate* 4′ 4″)	C.	110	8″
S. side, opposite Maple, 6″ s. con., r. g. (*gate* 6′ 8″)	C.	112	16″
S. side, 130′ E. of Knox, 6″ s. con., r. g. (*gate* 7′ 3″)	C.	117	16″
N. side, 350′ E. of Chester, 6″ (*gate* 6′ 3″)	Co.	117	6″
N. side, at No. 442, 6″ (*gate* 6′ 3″)	Co.	117	6″
MILLER STREET.			
N. side, 600′ E. of Armory, 6″ (*gate* 4′ 4″)	Co.	88	6″
N. side, E. of No. 89, 6″ (*gate* 4′)	Co.	88	6″
MONROE STREET.			
N. side, opposite No. 45, 6″ (*gate* 8′)	Co.	83	6″
N. W. corner Hawley, 6″ (*gate* 5′ 6″)	Co.	83	6″
N. W. corner Eastern avenue	C.	83	6″
N. side, 8′ W. of Colton	C.	83	6″
MONROVIA STREET.			
E. side, 252′ S. of Page boulevard, 6″ (*gate* 4′)	Co.	79	8″
MONTMORENCI STREET.			
S. side, 14′ E. of Chestnut, 6″ 3-way (*gate* 20′ 8″)	Co.	140	36″
N. side, 4′ E. of Nos. 32-34, 5″ r. g. (*gate* 4′ 5″)	C.	137	36″
N. side, 2′ W. of Massasoit	C.	135	6″

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	Make.	Pressure.	Main Pipe.
MONTROSE STREET.			
E. side, 11′ N. of State, 6″ (*gate* 4′)	Co.	84	6″
E. side, 350′ N. of State, 2′ S. of No. 49, 6″ s. con	C.	84	6″
E. side, 100′ S. of Burr, 6″ (*gate* 4′ 9″)	Co.	84	6″
MOORELAND AVENUE.			
E. side, front of No. 47, 6″ s. con., r. g. (*gate* 5′)	C.	87	6″
E. side, opposite No. 90, 6″ s. con. (*gate* 4′)	C.	89	6″
N. E. corner Van Horn, 6″ (*gate* 3′ 2″)	Co.	89	6″
MORGAN STREET.			
S. E. corner North Main, 6″ (*gate* 5′ 7″)	Co.	144	6″
S. side, front of No. 33, 6″ (*gate* 6′ 10″)	Co.	145	6″
MORRIS STREET.			
N. side, 5′ E. of Main, 6″ 3-way (*gate* 10′ 4″)	C.	146	6″
N. side, 7′ E. of No. 40	C.	144	6″
E. side, 220′ N. of Central	C.	140	8″
MOUNTAINVIEW STREET.			
W. side, 4′ S. of Westernview, 6″ s. con	C.	94	6″
MULBERRY STREET.			
N. side, 216′ W. of School, front of No. 44, 6″ s. con	C.	122	6″
N. E. corner Ridgewood place, 6″ (*gate* 3′ 8″)	Co.	107	8″
N. side, 86′ W. of Mulberry street angle, opposite No. 125, 6″ (*gate* 3′ 4″)	Co.	98	8″
E. side, opposite Ridgewood terrace, 6″ (*gate* 10′ 3″)	Co.	91	8″
MURRAY HILL AVENUE.			
E. side, 250′ N. of Liberty street, 6″ s. con. (*gate* 4′)	C.	118	6″
E. side, 2′ S. of Franklin street, 6″ s. con. (*gate* 4′ 3″)	C.	114	6″
MYRTLE STREET.			
E. side, 257′ S. of State, 2′ N. of No. 31	C.	115	4″
NAPIER STREET.			
S. side, at Saw Works, 6″ (*gate* 23′ 5″)	Co.	116	8″
NEW STREET.			
N. E. corner East Court, 6″ (*gate* 3′ 2″)	Co.	144	6″

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	Make.	Pressure.	Main Pipe.
NEWBURY STREET.			
E. side, 350′ S. of Carew, 5′ S. of No. 24, 6″ s. con., r. g. (*gate* 5′ 2″)	C.	83	6″
E. side, front of Nos. 63-65, 6″ s. con. (*gate* 4′)	C.	83	6″
E. side, 36′ 6″ N. of Sherman avenue, 6″ (*gate* 6′ 8″)	Co.	83	6″
NEWLAND STREET.			
N. W. corner Plainfield, 6″ s. con	C.	148	6″
N. side, 750′ W. of Plainfield, 6″ s. con	C.	148	6″
NOEL STREET.			
N. side, 17′ W. of Shamrock avenue	C.	96	6″
N. side, 3′ W. of No. 94	C.	101	6″
E. side, 300′ S. of Mill, 6″ (*gate* 4′)	Co.	115	6″
NORFOLK STREET.			
E. side, 3′ S. of Wilbraham road	C.	83	6″
E. side, 12′ S. of No. 39, 6″ s. con., r. g. (*gate* 2′ 9″)	C.	83	6″
N. E. corner Marlborough, 6″ s. con., r. g. (*gate* 2′ 3″)	C.	83	6″
E. side, opposite No. 130, 6″ (*gate* 3′)	Co.	85	6″
NORTH STREET.			
N. E. corner Patton, 6″ (*gate* 2′ 8″)	Co.	144	10″
E. side, 9′ N. of Carew, 6″ 3-way (*gate* 3′ 10″)	C.	144	10″
E. side, 2′ N. of Grosvenor, 6″ 3-way (*gate* 3′ 3″)	C.	144	10″
E. side, 7′ N. of Ringgold, 6″ 3-way (*gate* 3′ 6″)	C.	144	10″
E. side, 4′ N. of Hebron, 6″ 3-way (*gate* 3′ 4″)	C.	143	10″
E. side, 12′ N. of Allendale, 6″ 3-way (*gate* 3′ 6″)	C.	143	10″
E. side, 12′ N. of Brookline avenue, 6″ 3-way (*gate* 3′ 2″)	C.	143	10″
E. side, 11′ N. of Bancroft, 6″ 3-way (*gate* 3′ 6″)	C.	144	10″
S. E. corner Jefferson avenue, 6″ 3-way (*gate* 4′ 3″)	C.	144	10″
NORTHAMPTON AVENUE.			
E. side, 2′ S. of Wilbraham road	C.	83	6″
E. side, 141′ N. of Southampton	C.	84	6″
E. side, 30′ N. of Beverly street	C.	85	6″
E. side, 30′ S. of S. road of Gunn square, 6″ s. con	C.	89	6″
E. side, 10′ N. of King street, 6″ s. con. (*gate* 3′ 6″)	C.	86	6″

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North Main Street.	Make.	Pressure.	Main Pipe.
N. W. corner Bradford, 6″ s. con., r. g. (*gate* 60′ 7″ E.)	C.	142	16″
N. E. corner Morgan (*gate* 17′ 6″ S. W.)	C.	144	16″
S. E. corner Osgood (*gate* 17′ 3″)	C.	144	16″
N. E. corner Bancroft (*gate* 15′ 10″)	C.	142	16″
S. E. corner Calhoun, 6″ (*gate* 17′ 4″ N. W.)	Co.	145	16″
E. side, midway Grace and Wason avenue, 6″ s. con., r. g. (*gate* 7′ 3″)	C.	145	12″
E. side, 370′ N. of Wason avenue, 6″ s. con., r. g. (*gate* 9′)	C.	146	12″
E. side, 960′ N. of Wason avenue, 8″ 4-way (*gate* 6′ 5″)	C.	146	12″
Norwood Street.			
S. side, 101′ E. of Pecousic avenue, 6″ (*gate* 18′ 5″)	Co.	147	6″
N. side, 161′ W. of Pecousic avenue, 6″ 3-way (*gate* 4′)	C.	147	6″
N. side, N. E. corner Hanover, 6″ 3-way (*gate* 8′ 4″)	C.	147	6″
Oak Street.			
E. side, 52′ S. of Lillian, 6″ (*gate* 3′ 5″)	Co.	87	8″
E. side, 6′ N. of Union, 6″ (*gate* 3′ 8″)	Co.	87	8″
S. E. corner Quincy, 6″ (*gate* 5′)	Co.	87	8″
E. side, 5′ S. of Tyler, 6″ (*gate* 5′ 6″)	Co.	87	10″
Oak Grove Avenue.			
E. side, 7′ N. of State street, 6″ s. con	C.	83	6″
E. side, 350′ N. of State street, 10′ S. of No. 41, 6″ 3-way (*gate* 5′ 4″)	C.	83	6″
E. side, 5′ S. of Shattuck street, 6″ 3-way (*gate* 6′ 2″)	C.	85	6″
E. side, 500′ S. of Acorn street, 6″ (*gate* 6′ 7″)	Co.	84	8″
N. E. corner Acorn street, 6″ s. con. (*gate* 5′ 8″)	C.	83	6″
Oakland Street.			
N. E. corner Sumner avenue, 6″ (*gate* 4′ 9″)	Co.	92	6″
E. side, 231′ S. of Garfield, 6″ (*gate* 4′ 9″)	Co.	92	6″
W. side, 8′ N. of Belmont avenue, 8″ 4-way (*gate* 7′)	C.	92	24″
W. side, opposite No. 125, 393′ S. of Dickinson, 6″ (*gate* 6′ 8″)	Co.	92	24″

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OAKLAND STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
W. side, 22′ S. of Dickinson, 6″ (*gate* 7′ 2″)	Co.	92	24″
W. side, 9′ N. of Dickinson, 6″ (*gate* 6′ 8″)	Co.	92	24″
W. side, 105′ N. of Bloomfield, 6″ (*gate* 6′ 8″)	Co.	92	24″
W. side, 85′ N. of Kensington avenue, 6″ (*gate* 6′ 6″)	Co.	91	24″
W. side, 2′ N. of Orange, 6″ (*gate* 4′ 4″)	Co.	91	24″
S. W. corner Noel, 6″ (*gate* 6′ 3″)	Co.	91	24″
W. side, 10′ N. of No. 347, 6″ (*gate* 7′ 4″)	Co.	92	24″
W. side, 33′ S. of No. 387, 6″ (*gate* 6′ 7″)	Co.	92	24″
W. side, 62′ S. of Allen, 6″ (*gate* 5′ 6″)	Co.	98	24″
OLIVE STREET.			
N. W. corner Logan	C.	86	6″
ORANGE STREET.			
S. side, 64′ W. of Revere, 6″ s. con	C.	90	6″
S. side, 30′ W. of Ranney	C.	90	6″
N. side, 200′ W. of Palm, 6″ s. con	C.	91	6″
N. side, 14′ W. of Allen, 6″ (*gate* 4′ 9″)	Co.	90	6″
ORCHARD STREET.			
N. side, 7′ W. of Plainfield	C.	148	6″
N. side, 968′ W. of Plainfield, opposite No. 109	C.	148	6″
N. side, front of No. 142, 6″ s. con. (*gate* 8′ 3″ S.)	C.	148	6″
ORLANDO STREET.			
E. side, 318′ S. of Sumner avenue, 6″ s. con. (*gate* 4′)	C.	91	6″
ORLEANS STREET.			
S. E. corner State, 6″ (*gate* 5′ 6″)	Co.	86	8″
N. E. corner Union	P.	86	4″
E. side, 4′ N. of Pendleton avenue	C.	87	6″
ORMOND STREET.			
E. side, 6′ N. of Belmont avenue, 6″ s. con	C.	92	6″
OSGOOD STREET.			
N. E. corner North Main, 6″ 3-way (*gate* 3′ 9″)	C.	144	8″
N. side, front of No. 26, 6″ 3-way (*gate* 3′ 2″)	C.	145	8″
N. side, 6′ E. of No. 48, 6″ (*gate* 3′)	Co.	145	8″
N. side, 8′ W. of North, 6″ 3-way (*gate* 3′)	C.	143	8″

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	Make.	Pressure.	Main Pipe.
OXFORD STREET.			
W. side, 2′ S. of Forest Park avenue, 6″ (*gate* 3′ 2″)	Co.	94	6″
W. side, 265′ S. of Forest Park avenue, 6″ (*gate* 3′ 2″)	Co.	95	6″
W. side, 14′ N. of Riverview terrace, 6″ (*gate* 3′ 10″)	Co.	96	6″
PAGE BOULEVARD.			
*N. side, 250′ E. of St. James avenue, 6″ (*gate* 4′ 1″)	Co.	79	12″
*N. side, just W. of St. James circle, 6″ (*gate* 4′)	Co.	79	12″
*N. side, just E. of St. James circle, 6″ (*gate* 5′ 6″)	Co.	79	12″
*N. side, rear of No. 141 St. James circle, 6″ (*gate* 5′ 4″)	Co.	79	12″
S. W. corner Stevens street, 6″ (*gate* 39′ 8″)	Co.	79	30″
S. side, at Stevens Duryea Co., 6″ (*gate* 40′ 2″)	Co.	79	30″
PALM STREET.			
E. side, 200′ S. of Orange, 6″ (*gate* 2′ 6″)	Co.	91	6″
PALMER AVENUE.			
N. side, front of No. 30, 250′ E. of Locust street, 6″ s. con. (*gate* 8′ 8″)	C.	140	6″
PARK STREET.			
S. side, 3′ W. of Willow, 6″ s. con., r. g. (*gate* 2′)	C.	145	8″
N. side, 331′ W. of Maple, 6″ (*gate* 3′ 6″)	P.	142	6″
PARKSIDE AVENUE.			
E. side, 4′ N. of Carew street, 6″ s. con., r. g. (*gate* 4′)	C.	87	6″
E. side, 450′ N. of Carew street, 6″ s. con., r. g. (*gate* 3′ 8″)	C.	86	6″
E. side, 1,050′ N. of Carew street, 6″ s. con., r. g. (*gate* 3′ 10″)	C.	86	6″
PARKWOOD STREET.			
E. side, 251′ S. of Sumner avenue	C.	92	6″
PATTON STREET.			
N. E. corner Main	C.	144	4″
N. side, 6′ E. of No. 54	C.	145	4″
N. side, 336′ E. of North, 6″ (*gate* 5′)	Co.	144	6″
N. W. corner Chestnut	C.	138	6″

*Set since December 1.

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	Make.	Pressure.	Main Pipe.
PEARL STREET.			
N. side, 4′ W. of Salem, 6″ s. con	C.	132	6″
N. side, 28′ E. of Byers, 6″ s. con., r. g. (*gate* 5′ 9″)	C.	118	10″
N. side, 440′ E. of Byers, 18′ E. of No. 156, 6″ s. con., r. g. (*gate* 4′ 4″)	C.	114	10″
N. side, 16′ W. of No. 196, 6″ s. con., r. g. (*gate* 4′ 5″)	C.	110	10″
N. side, 10′ W. of No. 234, 6″ s. con., r. g. (*gate* 4′ 5″)	C.	106	10″
N. side, 414′ W. of Federal, 6″ s. con., r. g. (*gate* 2′ 10″)	C.	103	10″
N. side, 5′ W. of Federal, 6″ s. con., r. g. (*gate* 4′)	C.	89	10″
PEARL STREET PLACE.			
E. side, 254′ N. of Pearl street, 6″ (*gate* 2′ 6″)	Co.	129	6′
PECOUSIC AVENUE.			
W. side, 392′ S. of York street, 8″ 4-way (*gate* 55′)	C.	147	36″
PENDLETON AVENUE.			
N. W. corner Eastern	C.	84	6″
N. side, 10′ E. of No. 204, 430′ W. of Eastern	C.	85	6″
N. side, front of No. 164, 430′ E. of Hancock street	C.	85	6″
PHOENIX STREET.			
N. side, 10′ E. of Liberty, 6″ (*gate* 5′ 9″)	Co.	85	6″
PINE STREET.			
E. side, front of No. 55	C.	88	6″
E. side, front of No. 109 (*gate* 5′ 7″)	C.	88	6″
W. side, 12′ S. of Central, 6″ 3-way, r. g. (*gate* 4′)	C.	90	16″
W. side, 8′ N. of Maple court, 6″ 3-way (*gate* 2′ 10″)	C.	91	16″
W. side, 33′ E. of Maple, 8″ 4-way (*gate* 3′)	Co.	93	16″
W. side, 19′ N. of Crescent hill, 6″ (*gate* 5′)	Co.	96	16″
W. side, opposite No. 355, 6″ (*gate* 3′ 6″)	Co.	103	16″
W. side, opposite Mill, 8″ 4-way (*gate* 3′ 10″)	Co.	110	16″
PINEYWOODS AVENUE.			
W. side, 10′ N. of Washington boulevard, 6″ s. con	C.	102	6″
N. E. corner Florentine gardens	C.	100	6″
N. side, 4′ E. of Firglade, 6″ s. con	C.	99	6″

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	Make.	Pressure.	Main Pipe.
PLAINFIELD STREET.			
S. side, 150′ W. of Plymouth	C.	141	6″
E. side, front of No. 407	C.	146	8″
N. E. corner Demond avenue	C.	147	8″
N. E. corner Hyde avenue (*gate* 15′ 2″ S. W.)	C.	147	8″
S. E. corner Wason avenue	C.	145	8″
PLEASANT STREET.			
N. E. corner State, 6″ (*gate* 4′ 2″)	Co.	86	6″
S. E. corner Bay	C.	86	4″
PLUMTREE ROAD.			
N. side, at Tilton's house, 6″ (*gate* 6′ 9″)	Co.	84	6″
PLYMOUTH STREET.			
N. side, 8′ W. of Nos. 20-22, 6″ s. con. (*gate* 2′ 4″)	C.	141	6″
POMONA STREET.			
E. side, opposite Grenada terrace, 6″ s. con	C.	90	6″
PORTER AVENUE.			
S. side, 180′ W. of St. James, 6″ (*gate* 3′ 3″)	Co.	79	6″
PORTLAND STREET.			
N. W. corner North Main, 6″ s. con. (*gate* 3′ 10″)	C.	144	6″
N. side, opposite Nos. 35-37, 6″ (*gate* 3′ 3″)	Co.	144	6″
PRATT STREET.			
N. side, 4′ E. of Chestnut, 6″ s. con. (*gate* 3′ 10″)	C.	137	6″
N. side, 294′ E. of Chestnut, 6″ s. con. (*gate* 4′ 2″)	C.	137	6″
N. side, 2′ W. of Massasoit, 6″ s. con. (*gate* 4′ 2″)	C.	135	6″
PRINCETON STREET.			
S. side, 2′ W. of Yale	C.	83	6″
S. side, 125′ W. of Amherst	C.	83	6″
S. E. corner St. James avenue	C.	83	6″
PROSPECT STREET.			
S. side, 12′ W. of Massasoit	C.	132	4″
S. side, 404′ W. of Carew, 6″ (*gate* 11′ 4″)	Co.	120	36″
S. side, 7′ W. of Carew, 6″ s. con. (*gate* 11′ 4″)	C.	112	36″

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PYNCHON STREET.	Make.	Pressure.	Main Pipe.
N. side, 2′ W. of Main, 6″ s. con., r. g. (*gate* 7′ 10″)	C.	144	8″
S. side, 200′ W. of Main, 6″ (*gate* 22′ 5″)	Co.	144	8″
N. side, 8′ W. of I. O. O. F. building, 6″ s. con., r. g. (*gate* 4′ 2″)	C.	144	12″
QUEEN STREET.			
N. side, 323′ W. of Hancock, 7′ E. of No. 42	C.	86	6″
QUINCY STREET.			
N. W. corner Orleans	C.	87	6″
N. E. corner Stebbins	C.	86	6″
N. side, 18′ E. of No. 182	C.	85	6″
N. side, 4′ E. of No. 230	C.	85	6″
N. side, 5′ W. of Eastern avenue	C.	83	6″
N. side, 2′ W. of Colton	C.	84	6″
RAILROAD STREET.			
S. side, 20′ W. of Main, 6″ (*gate* 3′ 5″)	Co.	144	6″
S. side, 12′ E. of Dwight Loomis Co., 6″ s. con	C.	143	6″
RANDALL AVENUE.			
W. side, 330′ N. of Allen street, 5′ N. of No. 32	C.	96	4″
RANDOLPH STREET.			
S. E. corner Forest Park avenue, 6″ (*gate* 5′ 2″)	Co.	94	6″
RANNEY STREET.			
E. side, opposite Wilmont, 6″ (*gate* 5′ 8″)	Co.	92	6″
E. side, 3′ N. of Bloomfield, 6″ (*gate* 3′ 3″)	Co.	92	6″
REED STREET.			
E. side, 6′ S. of State, 6″ (*gate* 5′ 6″)	Co.	83	6″
E. side, front of No. 31, 6″ (*gate* 6′)	Co.	83	6″
N. E. corner Wilbraham road	C.	83	6″
REVERE STREET.			
E. side, 3′ N. of Grand, 6″ s. con	C.	90	6″
RIDGEWOOD TERRACE.			
S. side, 236′ W. of Mulberry street, 6″ 3-way	Co.	94	6″

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RIMMON AVENUE.	Make.	Pressure.	Main Pipe.
S. side, 455′ W. of Bedford road (*gate* 4′)	C.	85	6″
S. side, 12′ E. of Bedford road, 6″ s. con. (*gate* 8′)	C.	85	6″
S. W. corner Gladwood (*gate* 9′ 6″)	C.	85	6″
RINGGOLD STREET.			
S. W. corner Chestnut	C.	144	6″
S. side, 330′ W. of Chestnut	C.	144	6″
RIPLEY PLACE.			
E. side, 205′ S. of St. James avenue, 6″ (*gate* 4′ 6″)	P.	86	6″
RIVERVIEW STREET.			
W. side, 30′ N. of Riverview terrace, 6″ (*gate* 7′)	Co.	100	6″
RIVERVIEW TERRACE.			
Center of terrace, 7′ E. of Fort Pleasant avenue, 6″ s. con	C.	107	6″
*Center of terrace, 17′ N. of Maplewood, 6″ (*gate* 4′ 5″)	Co.	95	6″
ROCHELLE STREET.			
E. side, 350′ S. of Wilbraham road, 6″ (*gate* 4′)	Co.	83	6″
E. side, 750′ S. of Wilbraham road, 6″ (*gate* 4′)	Co.	83	6″
ROSELAND STREET.			
N. side, front of No. 38	C.	147	6″
N. side, 275′ W. of Nos. 54-56	C.	147	6″
ROUND HILL.			
E. side, near Dunn's, 6″ (*gate* 15′ 4″ S. W. from hydrant)	Co.	137	6″
ROWLAND STREET.			
N. side, 18′ W. of No. 96, 6″ s. con. (*gate* 4′ 5″)	Co.	147	6″
N. E. corner Plainfield, 6″ (*gate* 4′ 4″)	Co.	147	8″
RUTLAND STREET.			
E. side, 135′ S. of State, 6″ (*gate* 3′ 9″)	Co.	83	8″

*Set since December 1.

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	Make.	Pressure.	Main Pipe.
RUTLEDGE AVENUE.			
N. side, 312′ E. of Main street, front of No. 32	P.	148	6″
SACHEM STREET.			
W. side, 296′ N. of Dickinson, 6″ (*gate* 3′ 9″)	Co.	98	6″
SALEM STREET.			
N. side, opposite Elliott	C.	128	6″
SANFORD STREET.			
N. E. corner Main, 8″ 4-way	Co.	144	6″
N. side, 6′ E. of Market, 6″ s. con	C.	144	6″
N. side, opposite No. 31, 169′ E. of Market	C.	144	6″
N. side, 35′ W. of Dwight	P.	144	6″
SARGEANT STREET.			
N. W. corner Main	C.	143	6″
S. side, 17′ W. of No. 37, 6″ s. con	C.	142	6″
SCHOOL STREET.			
E. side, 6′ S. of State, 8″ 4-way (*gate* 3′ 10″)	Co.	118	12″
E. side, 13′ N. of High, 6″ (*gate* 6′ 4″)	Co.	118	12″
E. side, 10′ N. of Union, 6″ (*gate* 8′)	Co.	118	12″
E. side, 241′ N. of Mulberry, 6″ (*gate* 7′ 2″)	Co.	117	12″
E. side, 4′ N. of Mulberry, 6″ (*gate* 7′)	Co.	117	12″
SCOTT STREET.			
W. side, opposite Pomona, 6″ s. con., r. g. (*gate* 3′ 9″)	C.	89	6″
N. W. corner White, 6″ s. con., r. g. (*gate* 4′ 3″)	C.	89	6″
SEARLE PLACE.			
N. side, 196′ E. of Walnut street, 6″ (*gate* 3′ 10″)	Co.	89	6″
SECOND STREET.			
W. side, near R. R. station, 6″ (*gate* 5′ 6″)	Co.	94	6″
SEVENTH STREET.			
Center of park on Main, opposite Seventh, 8″ 4-way (*gate* 5′ 2″)	C.	143	12″
S. side, opposite No. 26, 6″ 3-way (*gate* 2′ 9″)	C.	142	12″
S. side, 4′ W. of No. 53, 6″ 3-way (*gate* 3′)	C.	142	12″
S. E. corner Fulton, 6″ 3-way (*gate* 3′)	C.	142	12″

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	Make.	Pressure.	Main Pipe.
SHARON STREET.			
N. E. corner Main, 6″ 3-way (*gate* 2′ 6″)	C.	143	10″
N. side, front of No. 62, 6″ 3-way (*gate* 2′ 6″)	C.	144	10″
N. side, 24′ E. of No. 136, 6″ 3-way (*gate* 2′ 6″)	C.	144	10″
N. side, 10′ E. of block N. W. corner North, 6″ 3-way (*gate* 2′ 10″)	Co.	143	10″
N. side, front of No. 260, 6″ 3-way (*gate* 2′ 6″)	C.	144	10″
SHATTUCK STREET.			
S. W. corner Willard avenue, 6″ (*gate* 3′ 10″)	Co.	83	6″
SHEFFORD STREET.			
W. side, 234′ N. of Springfield, 10′ N. of No. 28, 6″ s. con., r. g. (*gate* 4′ 2″)	C.	94	8″
SHELDON STREET.			
S. W. corner North Main, 6″ 3-way (*gate* 1′ 4″)	C.	145	36″
S. side, 14′ W. of No. 31, 6″ 3-way (*gate* 1′ 4″)	C.	145	36″
S. side, 9′ E. of Birnie avenue, 6″ 3-way (*gate* 1′ 4″)	C.	146	36″
S. side, in Chase Lumber Yard, 130′ W. of Birnie avenue, 8″ 4-way (*gate* 5′ 2″)	C.	146	36″
SHERMAN STREET.			
S. E. corner Bay	C.	83	4″
S. E. corner McKnight	C.	83	4″
N. E. corner State	P.	83	4″
SHILLINGFORD STREET.			
N. side, 500′ E. of Eastern avenue, 6″ (*gate* 4′ 6″)	Co.	89	6″
SMITH STREET.			
N. side, 6′ W. of Knox, 6″ s. con., r. g. (*gate* 3′ 9″)	C.	112	6″
SORRENTO STREET.			
E. side, 7′ N. of Sumner avenue, 6″ s. con	C.	91	6″
SPENCER STREET.			
E. side, at No. 35, 6″ (*gate* 3′ 8″)	C.	90	6″

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	Make.	Pressure.	Main Pipe.
Spring Street.			
N. W. corner State, 6″ s. con. (*gate* 3′ 4″)	C.	120	6″
E. side, 70′ S. of Frost, 6″ s. con., r. g. (*gate* 2′ 6″)	C.	122	6″
E. side, front of No. 63, 351′ S. of Salem, 6″ s. con., r. g. (*gate* 2′ 6″)	C.	123	6″
E. side, opposite Salem, 6″ 3-way	P.	125	6″
N. E. corner Pearl, 6″ s. con., r. g. (*gate* 2′ 6″)	C.	126	6″
N. E. corner Summer	C.	131	6″
Springfield Street.			
In Springfield Hospital grounds, 6″ s. con., r. g. (*private*)	C.	124	
In Springfield Hospital grounds, 6″ s. con., r. g. (*private*)	C.	124	
In Springfield Hospital grounds (*private*)	C.	124	
S. side, 20′ W. of Atwater terrace, 6″ s. con. (*gate* 19′ 8″)	C.	124	8″
S. side, 43′ E. of W. line of Shefford, 6″ s. con	C.	93	8″
S. W. corner Armory	P.	87	8″
Spruce Street.			
E. side, 6′ N. of Hawthorne, 6″ (*gate* 2′ 6″)	Co.	89	8″
Spruceland Avenue.			
S. side, 12′ W. of Magnolia terrace	C.	98	6″
S. side, 22′ W. of Cherryvale	P.	98	6″
Stafford Street.			
N. side, 370′ W. of Armory, 6″ (*gate* 4′ 8″)	Co.	89	6″
State Street.			
S. side, N. E. corner United Electric Light Co.'s dynamo building	C.	145	4″
N. side, 23′ W. of Institution for Savings, 6″ s. con. (*gate* 5′ 4″)	C.	144	8″
N. side, 4′ W. of Court House	C.	144	8″
S. side, 13′ W. of Court House place, 6″ 3-way (*gate* 8′ 6″)	C.	144	8″
N. side, 14′ W. of Main, 8″ 4-way (*gate* 7′ 6″)	Co.	144	12″
N. side, on E. line of Main, 8″ 4-way (*gate* 9′)	Co.	144	16″
N. W. corner Market	C.	144	16″

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STATE STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
S. side, 4′ W. of Willow, 6″ s. con	C.	144	8″
N. side, 11′ E. of Dwight (*gate* 6′)	C.	142	16″
S. side, 275′ E. of Maple, 6″ 3-way, r. g. (*gate* 10′ 10″)	C.	133	6″
N. side, 359′ W. of Elliott (*gate* 4′ 8″)	P.	130	16″
S. side, 480′ E. of Maple, 7′ E. of State Street Grammar School, 8″ 4-way (*gate* 10′ 10″)	C.	129	8″
N. side, 182′ W. of Elliott, 6″ s. con. (*gate* 17′ 4″)	C.	127	16″
N. W. corner Elliott (*gate* 22′ 10″)	M.	124	16″
N. side, 375′ E. of Byers, 8″ 4-way (*gate* 7′ 2″)	C.	103	20″
N. side, 850′ W. of Federal, 6″ 3-way (*gate* 7′ 6″)	C.	94	20″
N. side, 550′ W. of Federal, 8″ 4-way (*gate* 7′ 5″)	C.	91	20″
N. side, 266′ W. of Federal, 6″ 3-way (*gate* 7′ 5″)	C.	89	20″
N. side, 26′ W. of Federal, 8″ 4-way (*gate* 7′ 2″)	C.	87	20″
N. side, opposite No. 515, 6″ (*gate* 16′ 9″ N.)	Co.	87	20″
N. side, opposite No. 539, 6″ (*gate* 18′ 9″ N.)	Co.	87	20″
N. E. corner St. James avenue, 6″ (*gate* 5′)	Co.	87	20″
N. side, opposite Orleans, 6″ (*gate* 5′ 8″)	Co.	87	20″
N. side, opposite Terrence, 6″ (*gate* 3′ 2″)	Co.	86	20″
N. E. corner Westminster, 6″ (*gate* 7′ 8″)	Co.	86	24″
N. side, 74′ W. of N. Y., N. H. & H. R. R. tracks, 6″ s. con. (*gate* 6′)	C.	83	24″
N. side, 41′ E. of Hayden avenue, 6″ (*gate* 4′)	Co.	83	24″
N. side, 12′ E. of College	C.	83	24″
N. side, 119′ W. of Cortland (*gate* 23′ 9″)	C.	83	24″
N. E. corner Almshouse driveway, 6″ s. con. (*gate* 1′ 9″)	C.	80	24″
N. E. corner Edgemont (*gate* 13′)	C.	73	24″
In Almshouse property (*private*)	C.	72	
In Almshouse property, 6″ s. con. (*private*)	C.	72	
In Almshouse property, 6″ s. con. (*private*)	C.	72	
In Almshouse property (*private*)	C.	72	
STEBBINS STREET.			
S. E. corner State, 6″ (*gate* 6′ 2″)	Co.	86	8″
STERLING STREET.			
S. side, front of No. 43	C.	87	6″

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	Make.	Pressure.	Main Pipe.
STERNS TERRACE.			
E. side, 375′ N. of Central street, 6″ 3-way (*gate* 3′ 8″)	Co.	103	8″
STEVENS STREET.			
W. side, 285′ S. of Page boulevard, 6″ (*gate* 23′ 2″)	Co.	79	12″
W. side, 600′ S. of Page boulevard, 6″ (*gate* 23′ 2″)	Co.	79	12″
ST. JAMES AVENUE.			
W. side, opposite Dorchester street	C.	81	6″
*W. side, opposite Page boulevard, 6″ (*gate* 5′ 1″)	Co.	79	12″
STOCKBRIDGE STREET.			
S. W. corner Willow, 6″ s. con	C.	144	6″
N. E. corner Willow, 6″ (*gate* 19′ 10″)	C.	144	6″
S. side, 132′ E. of Willow, 6″ s. con. (*gate* 1′ 10″)	C.	144	6″
S. side, 288′ E. of Willow	P.	143	6″
S. W. corner Maple	P.	134	6″
SUFFOLK STREET.			
E. side, 10′ S. of No. 129, 5″ s. con	C.	83	6″
SULLIVAN STREET.			
N. E. corner Armory, 6″ s. con	C.	87	6″
SUMMER STREET.			
N. side, 20′ W. of Autumn, 6″ s. con., r. g. (*gate* 6′)	C.	126	8″
S. side, front of No. 103, 6″ s. con., r. g. (*gate* 4′ 2″)	C.	127	8″
S. side, 380′ W. of Kibbe avenue, 6″ s. con., r. g. (*gate* 4′ 2″)	C.	124	8″
S. side, 10′ E. of Kibbe avenue, 6″ (*gate* 5′ 2″)	C.	121	8″
S. W. corner Federal, 6″ s. con., r. g. (*gate* 5′ 8″)	C.	107	8″
SUMNER AVENUE.			
N. side, 19′ E. of Longhill street	C.	96	6″
N. W. corner Fort Pleasant	C.	97	6″
S. E. corner Firglade	C.	96	8″
S. side, 7′ E. of Washington road	C.	96	8″
S. side, 116′ W. of Sumner terrace, 6″ s. con	C.	93	8″
S. side, 45′ W. of Dickinson street, 6″ s. con	C.	92	8″

*Set since December 1.

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SUMNER AVENUE—(*Continued*).	Make.	Pressure.	Main Pipe
N. side, 13′ W. of Ventura street, 8″ (*gate* 5′)	C.	92	16″
N. side, 3′ W. of Pomona street, 6″ (*gate* 6′ 3″)	Co.	92	16″
S. side, 9′ W. of Lester street, 6″ s. con. (*gate* 7′ 10″)	C.	91	8″
N. side, 12′ W. of Herman street, 6″ (*gate* 4′ 6″)	Co.	91	16″
N. E. corner Converse street, 6″ (*gate* 5′ 4″)	Co.	91	16″
S. side, 10′ W. of Whittier, 6″ s. con. (*gate* 7′ 3″)	C.	91	8″
S. side, 9′ W. of Spencer street, 6″ s. con. (*gate* 7′ 2″)	C.	90	6″
S. side, 45′ E. of Thorndyke street	C.	90	6″
S. side, 15′ E. of No. 1079, 6″ s. con., r. g. (*gate* 9′ 9″)	C.	90	6″
SUMNER TERRACE.			
Center of terrace, 54′ N. of Sumner avenue, 6″ 3-way (*gate* 4′ 2″)	C.	92	6″
Center of terrace, 375′ N. of Sumner avenue, 6″ 3-way (*gate* 4′ 10″)	C.	92	6″
SUPERIOR PLACE.			
N. side, east of angle, 6″ (*gate* 4′ 9″)	Co.	117	6″
SWITZER AVENUE.			
S. side, 130′ E. of County street, 6″ (*gate* 2′ 10″)	Co.	78	6″
SYLVAN AVENUE.			
E. side, 70′ N. of Fountain place, 6″ s. con. (*gate* 4′)	C.	90	6″
TALCOTT AVENUE.			
N. E. corner Plainfield street, 6″ (*gate* 2′ 9″)	Co.	147	6″
N. side, opposite Nos. 35-37	C.	147	6″
TAYLOR STREET.			
N. E. corner Main, 8″ 4-way (*gate* 7′ 6″)	Co.	144	8″
S. side, 238′ E. of Main, 6″	Co.	144	8″
N. side, 300′ E. of Power avenue, 6″ (*gate* 4′ 8″)	Co.	144	8″
N. side, 200′ E. of Dwight, 6″ s. con. (*gate* 3′)	C.	142	8″
N. W. corner Chestnut	C.	140	8″
TEMPLE STREET.			
S. side, 19′ E. of Maple	C.	130	4″
S. side, 45′ E. of W. line of High School	C.	126	4″
S. side, 5′ W. of School	C.	120	4″

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TENTH STREET.	Make.	Pressure.	Main Pipe
N. E. corner Main	C.	143	6″
N. side, 3′ W. of No. 54	C.	145	6″
N. side, 9′ W. of No. 106	C.	145	6″
N. W. corner Chestnut	C.	137	6″
TERRENCE STREET.			
S. E. corner State, 6″ (*gate* 7′ 9″)	Co.	87	8″
E. side, 7′ N. of No. 35	M.	86	4″
THOMAS STREET.			
N. W. corner North Main, 6″ (*gate* 8′ 9″)	Co.	145	6″
N. side, opposite Nos. 29-31, 6″ (*gate* 4′ 2″)	Co.	145	6″
THOMPSON STREET.			
E. side, 4′ N. of State, 6″ (*gate* 6′)	Co.	85	30″
E. side, 310′ N. of State, 6″ (*gate* 6′)	Co.	85	30″
E. side, 275′ S. of Bay, 6″ (*gate* 4′ 6″)	Co.	85	30″
E. side, 307′ N. of Bay, 6″ (*gate* 3′)	Co.	85	30″
E. side, 47′ S. of St. James avenue, 6″ (*gate* 3′)	Co.	85	30″
N. E. corner St. James avenue, 6″ (*gate* 3′ 4″)	Co.	85	30″
E. side, 14′ N. of No. 173, 6″ (*gate* 3′)	Co.	85	30″
TOWNSLEY AVENUE.			
N. E. corner Main street, 6″ s. con., r. g. (*gate* 14′ 10″)	C.	144	6″
N. W. corner Market, 6″ 3-way (*gate* 11′ 4″)	C.	144	6″
TRACY AVENUE.			
S. E. corner Franklin street	C.	108	6″
TREMONT STREET.			
N. side, 450′ E. of Second, 6″ (*gate* 3′ 8″)	Co.	94	8″
TRILLIUM STREET.			
N. E. corner White, 6″ (*gate* 3′ 4″)	Co.	90	6″
TRINITY TERRACE.			
S. E. corner Sumner avenue, 6″ 3-way	C.	90	6″
E. side, 300′ S. of Sumner avenue, 6″ (*gate* 4′ 2″)	Co.	90	6″

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TYLER STREET.	Make.	Pressure.	Main Pipe.
N. E. corner Orleans	C.	87	6″
N. side, 217′ E. of Orleans	C.	86	6″
N. side, 445′ E. of Hancock	C.	85	6″
N. side, 450′ W. of Eastern avenue	C.	84	6″
N. W. corner Colton	C.	83	6″
UNION STREET.			
S. side, 35′ E. of N. Y., N. H. & H. R. R. tracks, 6″ (*gate* 6′ 10″)	Co.	145	8″
S. side, 15′ E. of No. 79	C.	145	6″
N. W. corner Main, 6″ (*gate* 21′ 8″)	Co.	145	6″
N. E. corner Main	C.	145	6″
S. E. corner Dale	C.	145	6″
N. side, 9′ E. of Maple, 6″ s. con. (*gate* 6′)	Co.	127	6″
N. side, 405′ E. of Maple, opposite No. 263	C.	123	6″
N. side, opposite Ridgewood place, 6″ (*gate* 6′)	Co.	107	8″
N. E. corner Ingraham avenue, 6″ (*gate* 24′ 4″)	Co.	92	8″
N. side, opposite Mulberry, 6″ (*gate* 4′ 8″)	Co.	89	8″
S. W. corner Walnut	P.	87	8″
N. W. corner Stebbins	P.	86	8″
S. side, 21′ E. of No. 671	C.	85	6″
S. side, front of Nos. 717-719	C.	84	6″
S. W. corner Eastern avenue	C.	83	6″
N. side, 8′ W. of Colton	C.	83	6″
VAN NESS AVENUE.			
S. side, front of No. 34, 6″ s. con. (*gate* 4′ 10″)	Co.	81	6″
VENTURA STREET.			
E. side, 12′ S. of Alderman	C.	91	6″
VERMONT STREET.			
N. side, 218′ E. of Pomona, 6″ 3-way (*gate* 4′ 10″)	Co.	89	6″
N. side, front of Nos. 50-52, 6″ (*gate* 4′)	Co.	89	6″
VERNON STREET.			
N. side, 20′ W. of Main, 6″ (*gate* 6′ 8″)	Co.	144	8″
N. side, 7′ W. of No. 40, 6″ (*gate* 6′ 3″)	Co.	144	6″

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	Make.	Pressure.	Main Pipe
VINE STREET.			
N. W. corner Main	C.	142	6″
S. side, 17′ W. of No. 37	C.	141	6″
VINTON STREET.			
S. E. corner Franklin	C.	120	6″
N. E. corner Liberty	C.	126	6″
VIRGINIA STREET.			
N. W. corner Dickinson, 6″ (*gate* 4′)	Co.	90	6″
N. side, 394′ W. of Dickinson, 6″ (*gate* 4′)	Co.	90	6″
N. E. corner Trafton road, 6″ (*gate* 4′)	Co.	90	6″
WAIT STREET.			
N. side, 411′ W. of Penacook avenue, 6″ 3-way (*gate* 3′ 5″)	C.	85	6″
WALKER STREET.			
S. side, 392′ W. of Water	C.	145	8″
S. side, 652′ W. of Water, 9′ E. of N. Y., N. H. & H. R. R. tracks (*gate* 2′ 8″)	C.	144	6″
WALNUT STREET.			
S. E. corner State, 6″ s. con. (*gate* 4′)	C.	87	12″
E. side, 6′ N. of Charter avenue	P.	87	12″
E. side, at Oak, 3′ S. of N. line of triangle	C.	88	8″
E. side, 9′ S. of Pendleton avenue	P.	88	8″
N. W. corner Belgrade place	C.	88	8″
E. side, 4′ N. of Marshall place, 6″ (*gate* 5′ 6″)	Co.	91	12″
W. side, 121′ S. of Melrose, 6″ (*gate* 7′ 11″)	Co.	96	24″
WALTER STREET.			
N. W. corner North Main	C.	146	6″
WALTHAM AVENUE.			
S. E. corner Wilbraham road	C.	83	6″
W. side, 300′ S. of Wilbraham road (*private*)	C.	84	6″
E. side, 666′ S. of Wilbraham road, 6″ s. con. (*gate* 3′)	Co.	84	6″

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	Make.	Pressure.	Main Pipe.
WAREHOUSE STREET.			
Opposite F. T. Ley & Company's warehouse, 6" (*gate* 5' 3")	Co.	90	6"
WARNER STREET.			
S. side, front of No. 33, 6" s. con	C.	100	6"
WARRINER AVENUE.			
N. side, 2' E. of Nos. 32-34	C.	138	6"
WARWICK STREET.			
N. E. corner Heywood (*private*)	C.	118	6"
N. side, 173' E. of Heywood (*private*)	C.	118	6"
N. side, 369' E. of Heywood (*private*)	C.	118	6"
N. side, 652' E. of Heywood, 6" s. con	C.	118	6"
WASHBURN STREET.			
N. side, 7' W. of Plainfield	C.	148	6"
N. side, opposite No. 65	C.	148	6"
N. side, 4' W. of No. 138	C.	148	6"
WASHINGTON ROAD.			
E. side, 200' N. of Pineywoods avenue	C.	97	6"
E. side, 164' S. of Pineywoods avenue, 6" 3-way (*gate* 6' 3")	C.	100	6"
N. E. corner Washington boulevard, 6" 3-way (*gate* 5' 3")	C.	98	6"
WASON AVENUE.			
N. side, opposite No. 31	C.	147	10"
N. side, S. W. corner Baush Machine Company, 6" s. con., r. g. (*gate* 4' 2")	C.	147	12"
N. W. corner North Main street, 6" s. con., r. g. (*gate* 4' 4")	C.	147	12"
WATER STREET.			
E. side, 15' S. of Railroad, 8" 4-way (*gate* 20')	C.	144	36"
E. side, 28' N. of Hampden, 8" 4-way (*gate* 17' 6")	Co.	144	36"
S. E. corner Hampden, 6" s. con., r. g. (*gate* 3' 8")	C.	144	36"
N. E. corner Fort, 8" 4-way (*gate* 15' 10")	Co.	144	36"

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WATER STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
N. E. corner Worthington, 8″ 4-way (*gate* 16′ 6″)	Co.	144	36″
E. side, 7′ S. of Worthington, 8″ 4-way (*gate* 18′ 9″)	Co.	144	36″
E. side, 4′ S. of Myrick court, 6″ (*gate* 17′ 2″)	Co.	144	36″
E. side, 5′ N. of Bridge, 8″ 4-way (*gate* 7′ 6″)	Co.	144	36″
E. side, 18′ S. of Bridge, 8″ 4-way (*gate* 3′ 8″)	Co.	144	36″
E. side, 61′ N. of Wight place, 8″ 4-way (*gate* 2′ 10″)	Co.	144	36″
E. side, 59′ S. of Wight place, 8″ 4-way (*gate* 3′ 5″)	Co.	144	36″
E. side, 15′ N. of Vernon, 8″ 4-way (*gate* 3′ 5″)	Co.	144	36″
E. side, 24′ S. of Vernon, 8″ 4-way (*gate* 4′ 6″)	Co.	144	36″
E. side, 15′ N. of Pynchon, 8″ 4-way (*gate* 4′ 6″)	Co.	144	36″
E. side, 24′ S. of Pynchon, 6″ (*gate* 7′ 8″)	Co.	144	36″
E. side, 140′ S. of Pynchon, 8″ 4-way (*gate* 8′ 11″)	Co.	144	36″
E. side, 11′ S. of Elm, 8″ 4-way (*gate* 7′ 7″)	Co.	144	36″
E. side, 5′ N. of State, 8″ 4-way (*gate* 8′ 7″)	Co.	144	36″
E. side, 17′ N. of Bliss, 8″ 4-way (*gate* 4′)	Co.	144	36″
E. side, 25′ S. of Bliss, 8″ 4-way (*gate* 3′ 10″)	Co.	144	36″
E. side, 17′ N. of Howard, 8″ 4-way (*gate* 3′ 6″)	Co.	145	36″
E. side, opposite Mechanic, 8″ 4-way (*gate* 3′ 2″)	Co.	145	36″
E. side, 7′ S. of Union, 8″ 4-way (*gate* 2′ 11″)	Co.	145	36″
E. side, 18′ S. of Wilcox, 8″ 4-way (*gate* 3′ 3″)	Co.	146	36″
E. side, 10′ N. of William, 8″ 4-way (*gate* 3′ 3″)	Co.	146	36″
E. side, 2′ N. of Banks place, 8″ 4-way (*gate* 2′ 3″)	Co.	146	36″
E. side, 16′ S. of Margaret, 8″ 4-way (*gate* 3′ 2″)	Co.	146	36″
E. side, 9′ S. of Fremont, 8″ 4-way (*gate* 2′ 9″)	Co.	147	36″
E. side, 11′ N. of Walker, 8″ 4-way (*gate* 3′ 6″)	Co.	147	36″
E. side, 38′ S. of Lombard, 8″ 4-way (*gate* 3′ 9″)	Co.	147	36″
E. side, 6′ N. of Gardner, 8″ 4-way (*gate* 4′ 4″)	Co.	147	36″
WAVERLY STREET.			
N. E. corner North Main, 8″ 4-way (*gate* 7′ 2″)	C.	144	10″
N. W. corner North, 6″ 3-way (*gate* 6′ 6″)	C.	144	10″
N. side, 15′ W. of Chestnut, 6″ 3-way (*gate* 6′ 5″)	C.	137	10″
WEBSTER STREET.			
W. side, 11′ S. of Franklin, 6″ s. con. (*gate* 3′ 6″)	C.	115	6″
WELCOME PLACE.			
E. side, 221′ N. of Bay street	C.	83	6″

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	Make.	Pressure.	Main Pipe.
WELLINGTON STREET.			
E. side, 110′ N. of Marlborough, 6″ s. con	C.	83	6″
E. side, 210′ S. of Marlborough, 6″ (*gate* 5′)	Co.	83	6″
WENDELL AVENUE.			
S. side, 435′ E. of Main street, 6″ s. con	C.	148	6″
WENTWORTH AVENUE.			
S. side, 441′ W. of Liberty street, 6″ (*gate* 13′ 2″)	Co.	83	6′,
WEST STREET.			
In Hampden park, 293′ S. of West (*private*)	C.	147	6″
S. side, at League park, 6″ (*gate* 3′ 9″)	Co.	147	6″
WESTERNVIEW STREET.			
N. E. corner Forest Park avenue, 6″ s. con. (*gate* 7′)	Co.	96	6″
N. side, at angle, front of No. 26, 6″ s. con. (*gate* 4′ 9″)	Co.	96	6″
WESTFORD AVENUE.			
E. side, 4′ S. of Wilbraham road, 6″ s. con	C.	83	6″
E. side, 475′ S. of Wilbraham road, 6″ s. con	C.	84	6″
E. side, 24′ S. of No. 93, 6″ s. con	C.	85	6″
E. side, opposite center of Gunn square, 6″ s. con	C.	91	6″
WESTMINSTER STREET.			
N. E. corner State	P.	84	6″
S. E. corner Bay	C.	84	6″
E. side, 15′ S. of No. 151	C.	84	6″
E. side, 5′ S. of St. James avenue	C.	84	6″
WHITE STREET.			
E. side, at Allen	C.	90	6″
W. side, 168′ N. of Grand	C.	90	6″
W. side, 73′ N. of Orange	C.	91	6″
W. side, 3′ N. of Dawson, 6″ (*gate* 7′ 3″)	Co.	90	8″
W. side, at No. 332, 6″ s. con. (*gate* 4′ 9″)	C.	89	8″
N. W. corner Vermont, 6″ (*gate* 5′)	Co.	90	8″
N. W. corner Sumner avenue, 6″ (*gate* 5′ 8″)	Co.	90	8″

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WHITE STREET—(*Continued*).	Make.	Pressure.	Main Pipe.
S. W. corner Priscilla place, 6″ s. con. (*gate* 7′)	Co.	90	12″
W. side, 350′ S. of Priscilla place, 6″ (*gate* 6′ 2″)	Co.	90	12″
W. side, 15′ N. of Longfellow terrace, 6″ 3-way (*gate* 7′)	C.	90	8″
N. W. corner Eleanor road, 6″ (*gate* 4′ 7″)	Co.	90	8″
S. W. corner Ainsworth, 6″ (*gate* 5′ 6″)	Co.	90	8″
S. W. corner Dwight road, near town line, 6″ (*gate* 5′ 6″)	Co.	90	6″
WHITNEY PLACE.			
N. side, 36′ W. of E. line of power house (*gate* 3′ 2″)	C.	145	4″
WHITTIER AVENUE.			
N. E. corner Hiawatha street, 6″ s. con. (*gate* 5′ 9″)	Co.	91	6″
E. side, 4′ S. of Priscilla street, 6″ s. con. (*gate* 5′ 6″)	Co.	91	6″
WIGHT PLACE.			
N. side, 262′ E. of Water street	C.	143	6″
WILBRAHAM AVENUE.			
E. side, 275′ S. of Wilbraham road	C.	84	6″
E. side, 106′ N. of Beverly street	C.	86	6″
E. side, 350′ S. of Beverly street	P.	86	6″
E. side, 350′ N. of King street, 6″ s. con	C.	86	8″
E. side, 7′ N. of King street, 6″ s. con	C.	86	8″
WILBRAHAM ROAD.			
N. side, 35′ E. of Waltham avenue, 6″ (*gate* 5′ 4″)	Co.	83	12″
N. side, front of House of Good Shepherd, 6″ s. con. (*gate* 10′ S. W.)	C.	85	8″
WILCOX STREET.			
S. W. corner Main (*gate* 22′ 8″ N. E.)	C.	146	6″
S. side, 4′ E. of No. 47	C.	146	6″
N. side, 42′ E. of railroad tracks	C.	145	4″
WILLARD AVENUE.			
W. side, 320′ S. of Shattuck street	C.	83	6″

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	Make.	Pressure.	Main Pipe.
William Street.			
N. side, 44′ E. of railroad tracks, 6″ (*gate* 6′)	Co.	144	8″
N. side, 2′ E. of Third Baptist Church	C.	146	6″
N. side, front of No. 116, 6″ (*gate* 3′ 9″)	Co.	146	6″
N. W. corner Main, 6″ (*gate* 4′ 5″)	Co.	146	6″
N. E. corner Main	C.	146	6″
S. side, 236′ E. of Main	C.	146	6″
N. W. corner Dale	C.	145	6″
Willow Street.			
S. E. corner State	P.	144	10″
N. E. corner Cross, 6″ s. con. (*gate* 7′ 9″)	C.	145	10″
In yard of George W. Tapley (*private*)	C.	145	10″
N. E. corner Union, 6″ s. con., r. g. (*gate* 11′ 6″ S. W.)	C.	145	10″
N. E. corner Hubbard avenue (*gate* 7′)	C.	146	10″
Wilmont Street.			
N. side, 226′ W. of Ranney, 6″ 3-way (*gate* 6′)	Co.	92	6″
N. side, 22′ W. of No. 64, 6″ s. con	C.	92	6″
Wilton Street.			
E. side, 500′ S. of Boston road, 6″ (*gate* 4′)	Co.	78	6″
Winchester Square.			
S. E. corner State street, near engine house	C.	83	12″
Winchester Street.			
S. E. corner Wilbraham road	C.	83	4″
Windsor Street.			
N. side, 8′ E. of Pine, 6″ s. con., r. g. (*gate* 3′ 9″)	C.	94	6″
N. side, 286′ E. of Pine, 6″ s. con., r. g. (*gate* 4′ 2″)	C.	97	6″
N. side, 45′ E. of Nos. 57-59, 6″ s. con., r. g. (*gate* 4′ 3″)	C.	104	6″
Winthrop Street.			
N. side, 5′ W. of Dale, 6″ s. con	C.	144	6″
N. side, 275′ W. of Dale, 6″ s. con	C.	145	6″
Wolcott Street.			
E. side, 4′ N. of Nos. 28-30, 6″ s. con. (*gate* 4′ 8″)	C.	94	6″

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Woodside Terrace.	Make.	Pressure.	Main Pipe.
W. side, 7′ N. of No. 92, 6″ s. con	C.	94	6″
Worcester Avenue.			
N. E. corner Plainfield street	C.	147	6″
N. side, 24′ W. of Nos. 44-46	C.	147	6″
N. W. corner Fisk	C.	147	6″
Worthington Street.			
*N. side, opposite Broadway, 6″ (*gate* 10′ 8″)	Co.	144	12″
N. side, 36′ E. of W. line of post office, 6″ s. con., r. g. (*gate* 10′ 4″)	C.	143	8″
S. side, 6′ W. of Main	C.	143	6″
N. E. corner Main, 6″ (*gate* 11′)	Co.	143	8″
N. side, 230′ E. of Main, 6″ 3-way (*gate* 9′ 6″)	Co.	143	8″
S. side, 268′ E. of Main	C.	143	6″
S. E. corner Stearns square (W.)	C.	143	6″
N. W. corner Dwight	C.	143	8″
S. side, 26′ E. of Dwight, 6″ 3-way (*gate* 4′)	Co.	143	8″
S. side, on W. line of Chestnut	C.	140	6″
E. side of Chestnut, 15′ N. of Worthington, 6″ s. con., r. g. (*gate* 12′ S.)	C.	140	10″
S. side, opposite Alert, 6″ (*gate* 2′ 6″)	Co.	135	6″
N. E. corner Alert	C.	135	8″
S. W. corner Spring, 6″ s. con. (*gate* 7′ 2″)	C.	130	6″
N. E. corner Spring, 6″ s. con., r. g. (*gate* 4′ 4″)	C.	129	8″
N. side, 266′ E. of Spring	C.	125	8″
N. E. corner Autumn, 6″ (*gate* 3′ 10″)	Co.	122	8″
N. side, 465′ E. of Autumn (*gate* 1′ 10″)	C.	123	8″
N. side, opposite Sackett avenue	C.	122	8″
N. E. corner Kibbe avenue (*gate* 4′)	C.	115	8″
N. side, 19′ E. of No. 862	C.	105	8″
N. E. corner Federal	P.	92	8″
N. side, 9′ W. of Armory, 6″ s. con	C.	89	8″
S. side, 325′ W. of Bowdoin, 6″ s. con	C.	96	8″
S. side, 11′ W. of E. line of Thompson, 6″ (*gate* 3′ N.)	Co.	85	12″

*Set since December 1, replacing 6″ Chapman.

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YALE STREET.	Make.	Pressure.	Main Pipe.
S. W. corner Monmouth	C.	83	6″
N. W. corner Harvard	C.	83	6″
N. W. corner Dartmouth	C.	83	6″
YORK STREET.			
N. side, 6′ W. of Main, 6″ 3-way (*gate* 2′ 6″)	C.	147	10″
N. side, 89′ E. of Pecousic avenue, 6″ 3-way (*gate* 5′)	C.	147	8″
N. side, 99′ W. of Pecousic avenue, 6″ 3-way (*gate* 4′ 5″)	C.	147	6″
N. side, 45′ W. of E. line of Hanover	C.	147	6″

SUMMARY OF CITY HYDRANTS.

8″ hydrants	78
6″ hydrants	842
5″ hydrants	13
4″ hydrants	447
Total number of public hydrants in city, Dec. 1, 1912	1,380

INDIAN ORCHARD.

BEAUDRY STREET.			
E. side, 400′ S. of Main, 6″	C.	85	6″
BERKSHIRE AVENUE.			
S. side, opposite Fullerton street, 6″ s. con. (*gate* 18′ 6″)	C.	78	24″
*S. side, W. of Seneca street, 6″ 3-way, r. g. (*gate* 22′ 5″)	C.	78	24″
*S. side, E. of No. 1259, 6″ s. con. (*gate* 15′ 6″)	C.	78	24″
S. side, 34′ E. of Fiberloid street, 6″ 3-way (*gate* 21′ 2″)	C.	79	24″
BERKSHIRE STREET.			
N. side, 195′ W. of Oak	C.	77	6″
N. side, 275′ E. of Oak, 6″ s. con., r. g. (*gate* 6′ 6″)	C.	75	6″

*Set since December 1.

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Boston Road (State Street).	Make.	Pressure.	Main Pipe.
N. side, 31′ W. of Parker street, 6″ s. con	C.	79	6″
N. side, 725′ W. of preceding hydrant, front of A. P. Nichol's house, 6″ s. con	C.	77	6″
N. E. corner Pasco road, 6″ s. con	C.	77	6″
Burke Street.			
S. E. corner Falmouth	C.	77	6″
Cedar Street.			
N. W. corner Main	C.	90	4″
S. W. corner Water	C.	90	4″
Center Street.			
N. side, 350′ E. of Oak	C.	90	6″
N. side, 404′ W. of Cedar	C.	90	6″
N. side, 400′ E. of Cedar, 5″ r. g. (*gate* 3′)	C.	88	6″
Chestnut Street.			
W. side, 10′ N. of Berkshire, 6″ s. con., r. g. (*gate* 9′ 3″)	C.	78	8″
W. side, 4′ N. of Hampden, 6″ s. con., r. g. (*gate* 5′ 9″)	C.	80	8″
W. side, 4′ S. of Worcester, 6″ s. con., r. g. (*gate* 7′ 3″)	C.	84	8″
Front Street.			
S. side, 16′ W. of office of Lillie's Waste Mill, 6″ s. con	C.	88	8″
S. side, 209′ E. of W. line of Myrtle, 6″ s. con	C.	88	8″
Hampden Street.			
N. side, 9′ W. of Pine, 6″ 3-way (*gate* 4′)	C.	78	6″
N. side, 252′ W. of Pine, 6″ 3-way (*gate* 4′ 6″)	C.	78	6″
S. W. corner Oak	C.	78	4″
S. E. corner Myrtle	P.	79	4″
S. E. corner Chestnut	C.	80	4″
S. side, 297′ W. of Chestnut, 6″ s. con., r. g. (*gate* 4′ 3″)	C.	80	6″
S. side, 8′ E. of Holly, 6″ s. con., r. g. (*gate* 5′ 9″)	C.	80	6″

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	Make.	Pressure.	Main Pipe.
HAMPSHIRE STREET.			
N. W. corner Myrtle	C.	75	4″
HEALEY AVENUE.			
S. E. corner Worcester street, 5″ r. g. (*gate* 3′)	C.	85	6″
N. E. corner South street, 5″ r. g. (*gate* 5′)	C.	76	6″
E. side, 375′ S. of South street, 5″ r. g. (*gate* 6′ 6″)	C.	73	6″
HOLLY STREET.			
E. side, 5′ S. of Worcester, 6″ s. con. (*gate* 6′ 8″)	C.	83	6″
HOMESTEAD AVENUE.			
S. E. corner Berkshire, 5″ r. g. (*gate* 3′ 2″)	C.	78	8″
E. side, 350′ S. of Berkshire, 5″ r. g. (*gate* 3′ 2″)	C.	78	8″
E. side, 700′ S. of Berkshire, 5″ r. g. (*gate* 3′ 2″)	C.	78	8″
E. side, 1100′ S. of Berkshire, 5″ r. g. (*gate* 3′ 2″)	C.	78	8″
INDIAN LEAP STREET.			
E. side, 255′ N. of Main, 6″ s. con. (*gate* 6′)	C.	93	6″
LYONS STREET.			
E. side, 19′ S. of Worcester, 6″ s. con., r. g. (*gate* 6′ 4″)	C.	73	6″
E. side, front of No. 11, 6″ s. con., r. g. (*gate* 6′ 4″)	C.	71	6″
MAIN STREET.			
N. side, 252′ W. of Myrtle	P.	86	8″
N. W. corner Myrtle	P.	86	8″
N. side, 272′ W. of Oak, 6″ s. con. (*gate* 21′10″)	C.	86	24″
S. side, 247′ E. of Pine, 6″ (*gate* 20′)	C.	87	24″
N. side, 460′ E. of Cedar, 6″	C.	84	8″
N. side, 38′ W. of Lyons	C.	83	8″
N. side, 158′ W. of Indian Leap, 6″ s. con.	C.	80	8″
N. side, 37′ W. of stone bound of town line for Springfield and Wilbraham	C.	96	6″
MILTON STREET.			
E. side, 6′ S. of Main, 6″	C.	80	6″
E. side, 600′ S. of Main, 6″	C.	76	6″

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	Make.	Pressure.	Main Pipe.
MOORE AVENUE.			
E. side, 124′ N. of Edward street, 5″ r. g. (*gate* 3′ 10″)	C.	72	6″
MYRTLE STREET.			
N. E. corner Berkshire	P.	79	8″
OAK STREET.			
E. side, 24′ S. of Water	C.	94	8″
N. E. corner Main	C.	86	8″
N. E. corner Hampshire	C.	75	6″
S. W. corner Essex, 3-way (*gate* 28′ 4″)	C.	73	4″
W. side, 167′ S. of Essex, 3-way (*gate* 27′ 6″)	C.	72	4″
E. side, 350′ S. of Franklin	C.	74	4″
E. side, 8′ N. of High	C.	72	6″
N. side, front of No. 340, 6″ s. con	C.	71	8″
N. side, near Springfield Foundry Co., 5″ 3-way (*gate* 6′ 4″)	C.	72	6″
N. side, 34′ W. of E. line of Moore avenue, 6″ s. con	C.	73	6″
ORCHARD AVENUE.			
E. side, 450′ S. of South street, 5″ r. g. (*gate* 4′ 6″)	C.	72	6″
PARKER STREET.			
S. W. corner Main	C.	94	6″
W. side, 116′ N. of S. line of Falmouth avenue (*gate* 3′ 2″)	C.	85	6″
W. side, 45′ S. of No. 83	C.	81	6″
W. side, opposite No. 145, 6″ s. con	C.	78	6″
W. side, 70′ S. of Edward, 6″ s. con	C.	74	6″
*E. side, opp. Oak, 5″ s. con. (*gate* 21′ 6″)	C.	74	6″
W. side, 700′ S. of railroad bridge	C.	77	4″
PASCO ROAD.			
E. side, 30′ N. of old Bay road	C.	75	6″
E. side, opposite Sunnyside avenue	C.	73	6″
E. side, 4′ S. of Essex street, 6″ s. con	C.	73	6″

*Set since December 1.

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Pine Street.	Make.	Pressure.	Main Pipe.
S. W. corner Main	P.	87	6″
N. W. corner Worcester (*gate* 13′ 7″ E. of W. line of Pine, 10′ 6″ S. of N. line of Worcester)	C.	87	6″
N. W. corner Hampshire	C.	75	6″
W. side, 36′ N. of Essex, 6″ 4-way (*gate* 1′ 9″)	C.	74	6″
Quebec Street.			
S. side, 375′ W. of Indian Leap, 5″ r. g. (*gate* 4′ 3″)	C.	95	6″
S. side, 703′ W. of Indian Leap, 15′ W. of Nos. 5-7, 5″ r. g. (*gate* 4′ 5″)	C.	95	6″
Rapalus Avenue.			
E. side, 400′ S. of Parker street (*gate* 4′ 6″)	C.	83	6″
Rogers Avenue.			
E. side, 238′ S. of Main street, 5″ r. g. (*gate* 2′ 6″)	C.	88	6″
Water Street.			
S. side, 241′ E. of Oak, 6″ s. con	C.	94	6″
In lot N. of Athol Branch station, 12′ N. of branch track to storehouse, 53′ E. of storehouse, 6″ s. con. (*gate* 26′ 5″ S. of station, 11′ 5″ E. of same)	C.	94	6″
Worcester Street.			
N. side, midway Chestnut and Myrtle, 6″ (*gate* 7′ 6″)	Co.	84	16″
S. W. corner Myrtle	P.	84	6″
N. side, 339′ W. of Oak, 6″ s. con. (*gate* 27′ 8″)	C.	85	6″
S. W. corner Oak	C.	86	6″
N. side, 75′ E. of East, 6″	C.	90	6″
N. side, 250′ W. of Lyons	C.	90	6″

Summary of Indian Orchard Hydrants.

6″ hydrants	37
5″ hydrants	14
4″ hydrants	35
Total number of public hydrants in Indian Orchard, December 1, 1912	86

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APPENDIX XVI.

STREET WATERING HYDRANTS CONNECTED WITH THE WORKS.

Crane Hydrants—For Cart Sprinklers.

(**Belongs to Street Watering Department.*)

No.	Location.
1.	*Water street, near Railroad.
2.	Cypress street, S. W. corner Main.
3.	Main street, S. E. corner Tenth.
4.	Fulton street, N. E. corner Auburn.
5.	North Main street, near Carew.
6.	*John street, N. W. corner Plainfield.
7.	Plainfield street, west side, midway Lowell and Washburn.
8.	*Plainfield street, at Clayton.
9.	*Hyde avenue, N. E. corner Plainfield street.
10.	North Main street, east side, opposite Grace.
11.	Springfield street, S. E. corner Chestnut.
12.	North Main street, east side, opposite Douglas.
13.	*Birnie avenue, east side, north of Thomas.
14.	Alexander street, S. E. corner North.
15.	Jefferson avenue, north side, near Chestnut street.
16.	*Birnie avenue, midway Huntington and Greenwich streets.
17.	Arch street, near North Main.
18.	*Brookline avenue, N. E. corner North street.
19.	*Massasoit street, south of Prospect.
20.	*Grosvenor street, N. W. corner Chestnut.
21.	Everett street, N. E. corner Chestnut.
22.	Carew street, south side, east of Arbor.
23.	Cass street, east side, north of Linden.
24.	Chestnut street, east side, at Franklin (south).
25.	*Franklin street, opposite Vinton.
26.	Liberty street, south side, opposite Webster.
27.	*Liberty street, opposite Genesee.
28.	Armory street, east side, south of Liberty.
29.	*Armory street, north of Carew.
30.	*Carew street, east of Liberty.
31.	*Grover street, N. E. corner Armory.

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No.	Location.
32.	*Cleveland street, N. W. corner Liberty.
33.	*Armory street, at Warwick (south).
34.	Worthington street, N. E. corner Kibbe avenue.
35.	Worthington street, front of house No. 725.
36.	Spring street, near S. E. corner Worthington.
37.	Dwight street, near N. E. corner Taylor.
38.	Dwight street, S. W. corner Hillman.
39.	Sanford street, S. W. corner Dwight.
40.	Chestnut street, west side, opposite Edwards.
41.	State street, N. E. corner Byers.
42.	Byers street, near S. E. corner Pearl.
43.	State street, S. W. corner Federal.
44.	Armory street, east side, north of Grant.
45.	Magazine street, west side, south of Armory.
46.	St. James avenue, N. E. corner Magazine.
47.	*Florida street, S. E. corner Worthington.
48.	Thompson street, N. E. corner St. James avenue.
49.	Worthington street, S. E. corner Clarendon.
50.	*Dartmouth terrace, opposite No. 71.
51.	St. James avenue, north of Princeton street.
52.	*Yale street, S. W. corner Monmouth.
53.	Amherst street, N. E. corner Princeton.
54.	*Dartmouth street, west of Bay.
55.	Bay street, N. W. corner Buckingham place.
56.	*McKnight street, at No. 12.
57.	Bay street, S. W. corner Marion.
58.	Cambridge street, S. E. corner Bay.
59.	Andrew street, west side, opposite Dawes.
60.	Amaron street, S. E. corner State.
61.	*Shattuck street, east of College avenue.
62.	State street, N. E. corner Willard avenue.
63.	*Westford avenue, near King street.
64.	Northampton avenue, N. W. corner Gunn square.
65.	Wilbraham road, at engine house.
66.	Monroe street, N. W. corner Eastern avenue.
67.	*Tyler street, at Eastern avenue.
68.	Hancock street, at State (south).
69.	*Quincy street, south side, east of Orleans.
70.	Quincy street, near N. E. corner Hancock.

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No.	Location.
71.	King street, N. W. corner Hancock.
72.	Eastern avenue, S. W. corner King street.
73.	Eastern avenue, N. W. corner Alden street.
74.	*Alden street, at Hickory.
75.	*Florence street, N. W. corner Walnut.
76.	Alden street, S. E. corner Hancock.
77.	Walnut street, east side, south of Queen.
78.	Pine street, south of cemetery gate.
79.	Oak street, east side, near Walnut.
80.	*Mulberry street, east side, near Union.
81.	Mulberry street, at Ridgewood place.
82.	*School street, S. E. corner High.
83.	Maple street, S. E. corner Central.
84.	Pine street, N. W. corner Central.
85.	Pine street, N. E. corner Maple.
86.	Central street, N. W. corner Spruce.
87.	Mill street, at Allen.
88.	*Hickory street, near No. 181.
89.	Allen street, at No. 161.
90.	*Allen street, front of No. 285.
91.	*Allen street, east of railroad tracks.
92.	White street, opposite No. 50.
93.	White street, N. W. corner Orange.
94.	*Revere street, at Grand (south).
95.	Oakland street, N. W. corner Orange.
96.	Dickinson street, S. E. corner Oakland.
97.	*Dickinson street, between Keith and Hall.
98.	Belmont avenue, at top of hill.
99.	Belmont avenue, opposite Mountainview street.
100.	*Westernview street, at Forest Park avenue (north).
101.	Belmont avenue, N. E. corner Oakland street.
102.	*Dickinson street, near Wilmont.
103.	*Grenada terrace, east of Ventura street.
104.	Sumner avenue, S. W. corner Dickinson street.
105.	*Dickinson street, opposite Hollywood.
106.	*Sumner avenue, east of Ormond street.
107.	*Sumner avenue, east of Lyndale street.
108.	*Belmont avenue, west of Ashmont street.
109.	*Sumner avenue, east of street railway car barn.

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No.	Location.
110.	Sumner avenue, opposite Churchill street.
111.	Garfield street, at Greenleaf (west).
112.	Sumner avenue, near Washington road.
113.	*Washington road, corner Pineywoods avenue.
114.	*Maplewood terrace, near Riverview terrace.
115.	Magnolia terrace, near house No. 77.
116.	Sumner avenue, S. E. corner Beechwood.
117.	Spruceland avenue, at Cherryvale.
118.	Main street, end of pipe at Pecousic brook.
119.	Sumner avenue, west of Beechwood.
120.	Fort Pleasant avenue, near Riverview terrace.
121.	Pine street, at Mill.
122.	Mill street, north side, about 100 feet east of Cherry.
123.	Main street, at Mill river.
124.	Main street, at Locust.
125.	*Broad street, near Main.
126.	*Norwood street, at Hanover.
127.	Loring street, N. E. corner Water.
128.	Adams street, N. E. corner Main.
129.	*William street, N. E. corner Main.
130.	*Wilcox street, east of Water.
131.	Park street, east of Willow.
132.	Howard street, S. W. corner Water.
133.	Pynchon street, north side, near Water.

INDIAN ORCHARD.

(**Belongs to Street Watering Department.*)

No.	Location.
1.	*Worcester street, west of Chestnut.
2.	*Hampden street, near Chestnut.
3.	Myrtle street, S. E. corner Hampshire.
4.	Hampshire street, S. W. corner Oak.
5.	Oak street, near old Bay road.
6.	Worcester street, S. W. corner Oak.
7.	Worcester street, near No. 236.
8.	*Main street, south side, west of Johnson.
9.	Main street, north side, east of No. 408.
10.	Cedar street, east side, near Main.
11.	Main street, S. E. corner Myrtle.

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Track Hydrants—For Car Sprinklers.

(*All belong to Street Watering Department.*)

No.	Location.
1.	North Main street, at Morgan.
2.	Bradford street, at Plainfield.
3.	Hyde avenue, at Plainfield street.
4.	Wason avenue, at North Main street.
5.	Hooker street, at North Main.
6.	Montmorenci street, at Chestnut.
7.	Liberty street, at Charles.
8.	Liberty street, at Armory.
9.	Liberty street, north of No. 799.
10.	Worthington street, east of Federal.
11.	Amherst street, at Princeton.
12.	Catharine street, at Pease.
13.	College street, at State.
14.	State street, west of No. 1365.
15.	Wilbraham road, opposite Homer street.
16.	Wilbraham road, east of Benton street.
17.	Hancock street, near State.
18.	St. James avenue, at Bay street.
19.	High street, at Walnut.
20.	Central street, at top of hill.
21.	King street, near Eastern avenue.
22.	Mill street, opposite Lincoln hall.
23.	White street, at Gordon.
24.	Sumner avenue, at Belmont (west).
25.	Sumner avenue, opposite car barn.
26.	Litchfield street, at Belmont avenue.
27.	Fort Pleasant avenue, at Riverview terrace.
28.	Norwood street, at Main.
29.	Maple street, at Park.
30.	Elm street, at Court square.

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APPENDIX XVII.

WATERING TANKS AND DRINKING FOUNTAINS CONNECTED WITH THE WORKS.

Bradford street, at Plainfield,	1
Cypress street, at Main,	1
Liberty street, at Armory,	1
Main street, near Cypress (ice-water drinking fountain),	1
Main street, at Court square ("Wesson" drinking fountain),	1
Main street, at Locust,	1
Main street, near Sargeant (ice-water drinking fountain),	1
Main street, I. O., at Oak,	1
Mill street, at Watershops,	1
Oak street, I. O., at Main (ice-water drinking fountain),	1
Springfield street, at Armory,	1
State street, at Federal,	1
State street, at Federal (ice-water drinking fountain),	1
State street, at Winchester park,	1
State street, at Winchester park ("Willard" drinking fountain),	1
State street, at Berkshire avenue, opposite Catholic cemetery,	1
Sumner avenue, at Belmont,	1
Worthington street, at Stearns park,	1
Total,	18

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APPENDIX XVIII.

PUBLIC PARKS, PLAYGROUNDS, AND FOUNTAINS

CONNECTED WITH THE WORKS.

	Parks.	Playgrounds.	Fountains.
Armory street playground, west side, south of Carew,		1	
Benton park, State street, between Federal and Magazine,	1		1
Calhoun park, Chestnut street, between Calhoun street and Jefferson avenue (pond and fountain),	1		1
Clarendon park, Clarendon street, at Bay,	1		1
Concord terrace park, Concord terrace,	1		1
Dartmouth park, Dartmouth street, at Bay,	1		1
Floral park, Spruceland avenue, at Florentine gardens,	1		1
Forest park, Sumner avenue (pond and fountain),	1		1
Franklin street, "Emily Bill" playground, south side, between Charles and Cass,		1	
Garfield triangle, Garfield street, between Fairfield and Greenleaf,	1		1
Hickory street playground, north side, east of railroad,		1	
Kibbe park, Federal street, at Armory,	1		1
Magnolia terrace park, Magnolia terrace,	1		2
Marble street, "Emerson Wight" playground, near end of street,		1	
Marengo park, midway of street,	1		1
McKnight park, Buckingham street, at Bay,	1		1
Parker street, I. O., playground, west side, near old Bay road,		1	
Stearns park, between Bridge and Worthington streets,	1		1
Thompson park, St. James avenue, at Worthington street,	1		1
West street playground, north side, near river,		1	
Winchester park, State street, at Wilbraham road (park only;—no fountain besides drinking fountain, classified elsewhere),	1		
Totals, 1912,	15	6	15

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APPENDIX XIX.

LITTLE RIVER SUPPLY.

ORDER OF RAILROAD COMMISSIONERS APPROVING LOCATION OF BERKSHIRE STREET RAILWAY OVER LITTLE RIVER WATERSHED.

COMMONWEALTH OF MASSACHUSETTS.

IN BOARD OF RAILROAD COMMISSIONERS.
August 16, 1912.

(8887)

Petition of the Berkshire Street Railway Company for approval of location of extension of its railway in the towns of Becket, Otis, Blandford, and Huntington, under the provisions of Chapter 601 of the Acts of 1910.

It appearing that, under the provisions of Section 3 of Chapter 601 of the Acts of 1910, the Berkshire Street Railway Company is required, before January 1, 1913, to construct and open for use certain extensions of its railway; that one of said extensions required under the provisions of said act, is a line of street railway between some convenient point on the line of railway in the town of Huntington and some convenient point on the line of the Berkshire Street Railway Company; and that the said Berkshire Street Railway Company, by virtue of said act, has designated the location of said extension in the towns of Becket and Otis, in the county of Berkshire, the town of Blandford, in the county of Hampden, and the town of Huntington, in the county of Hampshire; and it further appearing that said company has agreed that such provisions for sanitary regulations as may be made by the water department of the city of Springfield, and approved by the state board of health, shall be observed and conformed to by said company during the construction of said railway, for the protection of the Little River watershed belonging to the water system of the city of Springfield, under the provisions of Chapter 317 of the Acts of 1906; and that the said company in and during the operation of said railway and all matters incident thereto over said watershed shall observe and conform to all the sanitary regulations for the protection of said watershed that

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may be made by said water department and approved by the state board of health.

After public notice and hearing and a view of the proposed extension of railway,—it is

ORDERED, That the Board hereby approve the location of the extension of the line of the Berkshire Street Railway Company in the towns of Becket and Otis, in the county of Berkshire, the town of Blandford, in the county of Hampden, and the town of Huntington, in the county of Hampshire, as designated by said company, and as is hereinafter described, namely:—

Beginning at station 440 in the center line of the present location in the town of Becket and running thence south 42° 23′ east to station 466+64.44; thence by a 6° curve to the left to station 474+81.38; thence north 88° 36′ east to station 492+26.18; thence by a 6° curve to the right to station 506+19.79; thence south 7° 47′ east to station 511+36.8; thence by a 6° curve to the right to station 514+86.8; thence south 13° 13′ west to station 516+96.60; thence by a 6° curve to the right to station 506+19.79; thence south 7° 47′ east to station 533+66.06; thence by a 3° curve to the left to station 540+27.17; thence south 57° 22′ east to station 550+12.23; thence by a 2° curve to the left to station 553+87.23; thence south 64° 52′ east to station 556+01.81; thence by a 2° curve to the right to station 565+50.98; thence south 45° 53′ east to station 593+80.15; thence by a 3° curve to the left to station 597+92.37; thence south 58° 15′ east to station 654+99.07; thence by a 6° curve to the left to station 662+77.4; thence north 75° 03′ east to station 677+55.24; thence by a 6° curve to the right to station 688+51.64; thence south 39° 10′ east to station 701+43.61; thence by a 6° curve to the left to station 708+31.67; thence south 80° 27′ east to station 719+68.93; thence by a 6° curve to the left to station 729+35.60; thence north 41° 33′ east to station 731+60.9; thence by a 7° curve to the right to station 751+05.2; thence south 2° 21′ east to station 754+80.91; thence by an 8° curve to the left to station 763+44.04, which equals station 758+19.55 on continuation of this line; thence south 71° 24′ east to station 769+09.52; thence by a 4° curve to the left to station 772+10.35; thence south 83° 26′ east to station 777+75.00; thence by a 2° curve to the right to station 782+75.00; thence south 73° 26′ east to station 784+93.13; thence by a 6° curve to the right to station 794+71.46, which equals 798+31.42 on the continuation of this line; thence south 14° 44′ east to station 838+82.23; thence by a 6° curve to the left to station 848+55.01; thence south 73° 06′ east to station 885+70.78 equals station 333+09.20; thence in same tangent south 73° 06′ east to station 291+45.69; thence by an 8° curve to the left to station 284+00.69; thence north 47° 18′ east to station 281+16.16; thence by a 1° curve to the left to station 279+27.83; thence north 45° 25′ east to station 266+52.51; thence by a

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10° curve to the left to station 262+72.18; thence north 7° 23′ east to station 259+39.20; thence by a 15° curve to the right to station 250+54.40; thence south 39° 54′ east to station 247+71.74; thence by a 10° curve to the left to station 245+71.74; thence south 59° 54′ east to station 232+26.49; thence by a 10° curve to the left to station 224+96.49; thence north 47° 06′ east to station 221+73.32; thence by a 7° curve to the left to station 217+92.84; thence north 20° 28′ east to station 181+22.20; thence by a 15° curve to the right to station 175+26.60; thence south 70° 12′ east to station 170+99.80; thence by a 15° curve to the left to station 166+17.80; thence north 37° 30′ east to station 156+89.90 equals station 125+60.05; thence by a 10° curve to the left to station 123+15.88; thence north 13° 05′ east to station 117+81.93; thence by a 10° curve to the right to station 115+23.26; thence north 38° 57′ east to station 106+32.89; thence by a 10° curve to the right to station 102+89.39; thence north 73° 18′ east to station 97+60.20; thence by a 15° curve to the left to station 92+95.90; thence north 3° 39′ east to station 88+00.00; thence by a 9° curve to the right to station 75+00.00; thence south 59° 21′ east to station 69+50.40; thence by a 20° curve to the left to station 64+33.70; thence north 17° 49′ east to station 62+49.73; thence by a 15° curve to the right to station 57+16.40; thence south 82° 11′ east to station 49+40.10; thence by a 6° curve to the right to station 46+63.43; thence south 65° 35′ east to station 44+16.30; thence by a 15° curve to the left to station 39+75.40; thence north 48° 17′ east to station 34+87.90; thence by a 12° curve to the right to station 29+78.30; thence south 70° 34′ east to station 26+28.40; thence by a 15° curve to the left to station 22+47.30; thence north 52° 16′ east to station 21+61.83; thence by a 8° 30′ curve to the right to station 14+42.03; thence south 66° 33′ east to station 8+66.22; thence by a 10° curve to the right to station 6+41.05; thence south 44° 02′ east to station 5+00.92; thence by a 10° curve to the right to station 4+00.92; thence south 34° 02′ east to station 1+42.61; thence by a 200′ radius curve to the right to station 0+53.60; thence south 8° 32′ east to station 0, said station being in center line of the present track of the Springfield Street Railway in Huntington, Massachusetts, and all as shown on plan made by Durkee, White and Towne, and filed in the office of the Board.

For the Board,

(Signed) ALLAN BROOKS,

Assistant Clerk.

A true copy. Attest:

(Signed) ALLAN BROOKS,

Assistant Clerk.

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APPENDIX XX.

LITTLE RIVER SUPPLY.

RULES AND REGULATIONS APPROVED BY STATE BOARD OF HEALTH FOR SANITARY PROTECTION OF LITTLE RIVER WATERSHED DURING CONSTRUCTION OF BERKSHIRE STREET RAILWAY.

THE COMMONWEALTH OF MASSACHUSETTS.

OFFICE OF THE STATE BOARD OF HEALTH,
STATE HOUSE, BOSTON.
September 5, 1912.

To the Board of Water Commissioners of the City of Springfield.

GENTLEMEN:—The State Board of Health received from you on September 5, 1912, a draft of rules and regulations for the sanitary protection of the watershed of the water supply of the city of Springfield during the construction of the Berkshire Street Railway, these rules and regulations being submitted under agreement entered into before the railroad commissioners and referred to in a decree of said commission, as follows:—

> "And it further appearing that said company has agreed that such provisions for sanitary regulations as may be made by the water department of the city of Springfield, and approved by the state board of health, shall be observed and conformed to by said company during the construction of said railway for the protection of the Little River watershed belonging to the water system of the city of Springfield, under the provisions of Chapter 317 of the Acts of 1906."

The Board is informed that the work of constructing the railway into the watershed of the Springfield water supply has already been begun.

The Board has considered the draft of regulations presented as well as practicable within the time available and approves them, subject to amendment after further examination. They should be amended by inserting after the word "camps" at the end of the first paragraph of Section 3 the words: "but camps placed outside the watershed shall not be located on the watershed of any other

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water supply." A draft of the rules and regulations, as amended and approved, is appended hereto.

By order of the Board,

(Signed) MARK W. RICHARDSON,
Secretary.

SANITARY REGULATIONS FOR THE PROTECTION OF THE WATERSHED OF THE CITY OF SPRINGFIELD DURING THE CONSTRUCTION OF THE BERKSHIRE STREET RAILWAY, AS APPROVED BY THE STATE BOARD OF HEALTH ON SEPTEMBER 5, 1912, UNDER THE PROVISIONS OF CHAPTER 317 OF THE ACTS OF THE YEAR 1906.

SECTION 1. The Berkshire Street Railway Company, its contractors and employes, shall prevent nuisances in and about all camps and works; shall protect water courses, reservoirs, and all sources of water supply from pollution, contamination, or interference, and safeguard the public health as may be directed from time to time by the constituted authorities, of the State and City. Said Company shall summarily dismiss, or cause to be dismissed, and not again engage except with the written consent of the engineer, any employe who violates this section.

SECTION 2. The Board of Water Commissioners of the City of Springfield shall have the right, in order to determine whether the requirements as to sanitary matters are being complied with, to enter and inspect any camp or building or any part of the works, and to cause any employes to be examined physically or medically or treated; also to inspect the drinking water and food supplied to the employes. The sanitary precautions, the care of the employes, the camps and all territory occupied by the Company or its contractors, shall at all times be satisfactory to the engineer or other authorized representative of the Water Department. Said Company shall promptly and fully, and in every particular, comply with all orders and regulations in regard to these matters, including all sanitary and medical rules and regulations which may have been or may be promulgated from time to time. And to this end and to properly preserve the peace, the Board of Water Commissioners shall have the right of access to the camps and quarters of the Company or its contractors.

SECTION 3. No camps shall be located on the watershed of the City of Springfield, if suitable sites are existent off the watershed

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which could be made available for such camps, but camps placed outside the watershed shall not be located on the watershed of any other water supply. Any camp located on the watershed can only be so located after its approval by the engineer of the Board of Water Commissioners of the City of Springfield, and camps shall, if ordered, be enclosed by barbed wire or other approved fences not less than ten (10) feet high, with not more than two (2) entrances. Each camp and grounds surrounding it in all directions shall be thoroughly illuminated by high power acceptable lights. This illumination shall be maintained from sundown to sunrise every night during the occupation of the camp, unless otherwise ordered. Employes shall, so far as practicable, be required to remain within camp when not at work.

SECTION 4. Buildings for the sanitary necessities of all persons employed on the work, beginning with the first men employed to build camps or for other preliminary operations, shall be constructed and maintained by the Company, or its representatives, in the number, manner, and places ordered. All persons connected with the works shall be obliged to use these conveniences under penalty of discharge. Unless otherwise directed, the sanitaries shall be provided with water-tight removable receptacles of suitable capacity. These receptacles, if used, shall not be allowed to overflow, but shall be removed without spilling, at required intervals, their contents at once treated as directed, and then promptly taken to a designated place outside the watershed, and there disposed of as ordered. In case camps are located on the watershed, incinerators of satisfactory design shall be provided, which shall satisfactorily consume all night soil and other camp refuse. Said Company shall provide a sufficient number of acceptable attendants to keep all sanitaries in satisfactory condition and compel employes to use them.

SECTION 5. Said Company shall retain the services of acceptable qualified medical practitioners, to the number ordered, who shall have the care of the employes of the Company or its contractors, shall inspect their dwellings, the stables, and the sanitaries as often as required, and shall supply medical attendance and medicines to the employes whenever needed. Whenever practicable, an employe having a communicable disease shall be removed, when and as directed, to a hospital outside the watershed. The medical supervision of the Company over its employes shall extend to the physical and medical

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examination of all applicants for employment, in order to prevent persons having communicable diseases from becoming connected with the work, and the Company or its contractors shall employ only persons shown by such examination to be free from communicable diseases. Whenever, in the opinion of the engineer, it is necessary for the protection of the public health or the health of the employes, the Company shall remove or cause to be removed any employe from the work to a hospital, or shall remove permanently from the work or any camp any employe whose presence is believed to endanger the health of other persons.

SECTION 6. Once each week, or more frequently if required, the Company shall give the engineer, in such detail as may be prescribed from time to time, a written report signed by the physician in regular attendance, setting forth clearly the health conditions of the camp or camps and of the employes.

SECTION 7. The water furnished by the Company shall include a sufficient supply of drinking water of acceptable quality for all its employes, to be obtained from approved sources. If any water supply for domestic uses should become contaminated, the Company shall promptly provide a new supply from an approved source and abandon the contaminated supply, or shall provide works for purifying the contaminated water when and as ordered.

SECTION 8. All wash water from kitchens, laundries, and other places, and all drainage from stables, shall be conveyed by satisfactory means to places directed, where such drainage shall be treated by the means ordered so as to yield an acceptably innocuous effluent.

SECTION 9. Drainage from camps and shelters and from other places yielding water unfit for direct discharge into a reservoir or tributary thereof shall be conducted in tight drains or other approved conveyors to filters, septic tanks, or other disposal plants of approved construction, at places designated, and treated as directed to produce an acceptable effluent. Such effluent shall be discharged only in the manner and at the place or places directed. All arrangements for drainage shall be sufficient to provide for all rain water falling within the camp, so that there will be no overflow from camps which shall at any time reach the water course of the watershed without purification.

SECTION 10. Garbage, both liquid and solid, shall be promptly and satisfactorily removed from the buildings and immediately placed in approved tight receptacles of sufficient capacity for about

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one day's ordinary production. At least once in every twenty-four hours all such garbage shall be incinerated or otherwise thoroughly and satisfactorily disposed of in an approved manner.

SECTION 11. Shelters and other conveniences for the workmen within the watershed shall be provided with sanitaries for the use of all workmen, and other sanitaries shall also be provided near all points of work. The use of these must be insisted upon under penalty of discharge, and sufficient inspectors must be provided to see that sufficient sanitaries are provided and that all workmen use them at all times on the watershed. All night soil thus collected shall be in tight receptacles, and shall be disposed of at times and in manners heretofore provided or specified by the engineer of the Water Department.

SECTION 12. The Company shall build such disposal plants, sewers, drains, and other structures, and shall do such other work, not herein particularly specified, as may be ordered for carrying out the intent of these regulations.

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APPENDIX XXI.

LITTLE RIVER WATER SUPPLY
SPRINGFIELD, MASS.

CONSUMPTION AS METERED AT PROVIN MOUNTAIN RESERVOIR.
SPRINGFIELD ALONE. IN MILLIONS OF GALLONS.

1912	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1	9.43	12.26	11.82	11.95	10.84	9.68	12.40	10.35	7.28	10.80	10.00	7.72
2	10.28	11.86	11.48	11.22	10.65	9.11	12.45	10.64	7.95	11.16	8.67	11.66
3	10.57	10.45	11.31	11.38	10.71	11.80	13.26	8.90	10.20	11.33	8.15	9.10
4	10.10	10.53	13.41	11.45	9.60	11.50	10.25	8.07	11.18	11.00	10.90	10.35
5	11.03	13.26	13.00	11.27	8.17	11.68	13.00	10.14	10.80	9.66	10.65	10.00
6	10.44	12.33	13.00	10.21	11.00	11.73	11.80	10.41	10.55	8.50	10.45	9.87
7	9.96	12.43	12.77	9.24	11.43	11.00	12.21	10.53	9.47	11.50	10.33	8.30
8	12.39	12.17	12.35	13.00	10.89	8.67	14.61	10.78	8.60	11.90	10.34	8.40
9	12.03	12.06	10.50	10.32	11.32	9.16	13.72	10.28	12.17	11.17	8.70	9.76
10	12.30	12.38	10.00	11.70	11.24	12.10	14.28	9.68	10.25	11.06	8.03	10.34
11	12.18	12.40	12.79	11.47	9.75	11.86	12.50	8.50	11.02	10.30	10.78	10.22
12	12.00	13.38	12.20	11.38	8.45	11.60	12.22	10.56	10.35	8.40	10.38	10.10
13	11.52	13.36	12.00	9.54	11.35	11.74	11.27	10.82	10.71	8.15	10.31	9.72
14	11.41	13.96	12.47	9.00	11.32	11.66	8.08	10.82	9.28	11.60	10.00	8.47
15	12.32	13.10	11.56	12.00	11.35	9.80	13.36	10.52	8.60	11.00	10.30	7.67
16	13.13	12.58	10.14	11.64	10.40	9.30	12.30	10.25	11.22	11.50	9.33	10.40
17	12.81	10.77	9.55	11.26	11.14	10.80	11.68	9.56	10.81	11.06	7.75	9.85
18	12.05	10.57	12.50	10.78	9.81	11.86	10.92	7.88	10.95	10.91	10.43	9.50
19	11.75	13.18	12.11	8.70	8.91	12.22	10.77	10.00	10.77	9.23	10.30	11.08
20	10.53	13.00	12.25	10.30	11.21	12.00	10.17	9.90	10.59	8.50	10.10	9.70
21	9.70	12.40	11.80	8.02	10.81	11.40	8.33	9.77	8.95	11.50	10.47	7.92
22	12.34	11.40	11.65	11.40	11.60	10.90	10.70	10.21	9.49	11.11	10.15	7.22
23	11.41	12.11	10.04	11.31	10.61	10.02	10.42	9.80	10.33	10.69	8.53	9.35
24	12.10	11.38	9.49	11.44	10.93	12.90	10.88	9.09	10.00	10.47	7.68	8.24
25	12.17	10.80	12.00	11.38	9.21	12.52	10.51	8.40	11.34	9.46	10.54	7.10
26	12.40	11.64	12.00	11.04	8.70	12.76	10.15	10.20	11.68	8.90	10.30	8.91
27	11.25	11.61	11.77	9.26	11.00	12.28	11.20	10.06	10.05	7.91	10.50	8.45
28	11.00	12.06	11.57	8.76	12.70	12.63	9.04	10.00	9.04	10.90	6.40	8.12
29	12.96	11.93	11.28	10.97	10.90	11.50	10.40	10.01	8.08	10.40	7.82	7.76
30	12.32	.....	9.32	10.30	9.19	9.91	10.48	10.00	11.25	10.45	9.50	8.96
31	12.40	.....	9.85	.....	9.53	.....	10.16	9.05	.....	10.51	.....	8.81
Totals	358.28	351.81	357.98	321.69	324.72	336.09	358.02	305.18	302.96	320.33	286.79	283.05
Aver.	11.56	12.13	11.55	10.70	10.47	11.20	11.39	9.84	10.10	10.33	9.56	9.13

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APPENDIX XXII.

LITTLE RIVER WATER SUPPLY SPRINGFIELD, MASS.

Water Supplied to Ludlow, West Springfield and Agawam.

In Gallons. Meter Records.

1912	LUDLOW.	WEST SPRINGFIELD.	AGAWAM.
	SEPT.	DEC.	DEC.
1	.....	.....	.....
2	.....	.....	.....
3	.....	.....	.....
4	.....	.....	.....
5	.....	.....	.....
6	.....	.....	.....
7	.....	.....	.....
8	.....	.....	.....
9	.....	.....	.....
10	.....	.....	.....
11	.....	.....	.....
12	.....	.....	.....
13	.....	.....	.....
14	.....	.....	.....
15	.....	.....	.....
16	.....	.....	.....
17	.....	.....	.....
18	.....	.....	.....
19	.....	.....	.....
20	.....	297,704	.....
21	.....	501,908	.....
22	.....	478,720	.....
23	110,000	503,404	.....
24	2,480,000	514,000	.....
25	180,000	456,904	.....
26	.....	492,184	.....
27	.....	492,184	433,000
28	.....	486,948	14,000
29	.....	442,816	.....
30	.....	489,192	.....
31	.....	.....	.....
Totals	2,720,000	5,155,964	447,000

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APPENDIX XXIII.

WATER ANALYSES,

WEST PARISH FILTERS—1912.

H. F. SALMONDE,
Chemist.

E. E. LOCHRIDGE,
Chief Engineer.

EXPLANATION.

Alkalinity, Hardness, Dissolved Oxygen, Carbon Dioxide (CO_2), and Iron stated in parts per million.

River=Raw water sample taken from tunnel as drawn directly from river.

L—Under bacteria=Plate liquefied. Count impossible.

+—Under B-Coli.=indicates gas formation.

L.L.Agar.—(Litmus Lactose Agar.)=Number of red colonies.

Temperature in degrees Fahrenheit.

Under tastes and odors:—

Numeral indicates intensity, i. e.:—

0=None.

1=Very faint, not discernible by users but detected in laboratory.

2=Faint, discernible by users.

3=Distinct.

4=Decided.

Letter indicates character, i. e.:—

E=Earthy.

F=Fishy.

V=Vegetable.

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Date.	Day.	TEMPERATURE F. River.	TEMPERATURE F. Filtered.	TURBIDITY. River.	TURBIDITY. Settled.	TURBIDITY. Filtered.	ODOR. Hot. River.	ODOR. Hot. Filt'd.	ODOR. Cold. River.	ODOR. Cold. Filt'd.	COLOR. River.	COLOR. Settled.	COLOR. Filtered.	COLOR. City.	ALKALINITY. River.	ALKALINITY. Filtered.	HARDNESS. River.	HARDNESS. Filtered.	OXYGEN DISSOLVED. Settled.	OXYGEN DISSOLVED. Aerator.	OXYGEN DISSOLVED. Filtered.
January 1912																					
1	Mon.	38	36	0	3	0	1v	0	0	0	37	27	17	20	7.0	5.5	11.1	12.7			
2	Tues.	37	36	6	3	0	1E	0	0	0	36	27	13	20	7.0	5.5	12.5	11.1			
3	Wed.	37	36	0	6	0	1v	0	0	0	33	28	16	20	7.5	5.5	10.3	12.7			
4	Thurs.	37	36	0	4	0	1v	0	0	0	33	28	17	19	7.0	5.5	11.1	11.1			
5	Fri.	36	35	0	6	0	1v	0	0	0	33	27	17	19	7.5	5.0	11.1	11.1			
6	Sat.	36	35	0	5	0	1v	0	0	0	32	28	17	20	7.5	5.0	11.1	10.3	12.2	11.2	12.7
7	Sun.										31										
8	Mon.	37	36	0	5	0	1v	0	0	0	25	27	18	22	8.0	6.0	12.7	11.1			
9	Tues.	37	35	0	4	0	0	0	0	0	24	27	18	22	8.0	6.5	11.9	11.9			
10	Wed.	37	34	0	3	0	0	0	0	0	23	26	18	21	8.0	7.0	11.1	11.9			
11	Thurs.	36	34	0	0	0	0	0	0	0	19	26	18	22	8.0	7.5	10.3	11.1			
12	Fri.	35	34	0	0	0	0	0	0	0	17	22	17	22	9.0	8.0	10.2	11.1	11.3	14.0	12.4
13	Sat.	37	35	0	0	0	0	0	0	0	16	19	14	21	9.0	8.0	9.5	11.1			
14	Sun.	36	35	0	0	0		0	0	0	16	17	14								
15	Mon.	37	35	0	0	0	0	0	0	0	16	17	13	18	9.0	8.0	11.1	10.3			
16	Tues.	36	34	0	0	0	0	0	0	0	16	17	13	18	9.0	9.0	10.3	9.5			
17	Wed.	38	36	0	0	0	0	0	0	0	16	16	13	17	9.0	9.0	11.1	11.1			
18	Thurs.	36	35	0	0	0	0	0	0	0	17	16	12	16	9.0	9.0	11.1	11.1			
19	Fri.	36	36	0	0	0	0	0	0	0	17	16	13	16	9.0	9.0	9.5	10.3			
20	Sat.	35	35	0	0	0	1v	0	0	0	27	16	12	16	9.0	9.0	10.3	11.1	10.8	11.8	11.6
21	Sun.	36	35								28	17	13								
22	Mon.	35	34	0	0	0	0	0	0	0	21	24	13	16	9.0	9.0	11.1	9.5			
23	Tues.	36	35	0	6	0	0	0	0	0	19	22	17	16	9.0	8.0	11.1	10.3			
24	Wed.	36	35	0	3	0	0	0	0	0	20	22	14	16	9.0	8.0	11.1	11.1			
25	Thurs.	35	35	0	3	0	0	0	0	0	20	23	16	16	8.0	8.0	11.1	11.1			
26	Fri.	35	34	0	3	0	0	0	0	0	21	23	16	18	8.5	8.0	9.5	9.5			
27	Sat.	35	34	0	1	0	0	0	0	0	21	22	16	18	8.5	8.0	11.1	10.3	13.5	10.7	10.2
28	Sun.	36	35								22	21	16								
29	Mon.	35	34	0	0	0	0	0	0	0	23	22	17	17	8.5	8.5	11.1	11.1			
30	Tues.	35	35	0	0	0	0	0	0	0	22	22	17	17	9.0	8.5	11.1	11.1			
31	Wed.	35	34	0	0	0	0	0	0	0	22	21	16	18	9.0	8.5	11.1	10.3			
Average.		36	35	0	2	0	0	0	0	0	23	22	15	19	8.4	7.5	10.9	10.9	11.9	11.9	11.7
February—1912																					
1	Thurs.	35	35	0	0	0	0	0	0	0	21	21	16	19	9.0	9.0	11.1	11.1			
2	Fri.	35	35	0	0	0	0	0	0	0	21	21	17	19	9.0	9.0	12.7	11.1			
3	Sat.	35	34	0	0	0	0	0	0	0	21	21	16	19	9.0	9.0	11.9	11.1	13.6	13.2	11.4
4	Sun.	35	34								21	21	16								
5	Mon.	34	34	0	0	0	0	0	0	0	21	21	16	18	9.0	9.0	11.1	11.1			
6	Tues.	34	34	0	0	0	0	0	0	0	20	19	16	17	9.0	9.0	11.1	11.1			
7	Wed.	35	35	0	0	0	0	0	0	0	18	17	16	17	9.0	9.0	11.1	11.1	13.4	13.7	11.5
8	Thurs.	35	35	0	0	0	0	0	0	0	18	19	14	16	9.0	9.0	11.1	11.1			
9	Fri.	35	34	0	0	0	0	0	0	0	18	17	16	16	9.0	9.0	11.1	11.9			
10	Sat.	34	33	0	0	0	0	0	0	0	17	17	16	16	9.5	9.0	11.9	11.1			
11	Sun.	33	33	0	0	0	0	0	0	0	17	17	16								
12	Mon.	33	33	0	0	0	0	0	0	0	17	18	16	16	9.5	9.0	11.1	11.1			
13	Tues.	33	33	0	0	0	0	0	0	0	17	17	16	17	10.0	9.5	11.9	11.1			
14	Wed.	33	33	0	0	0	0	0	0	0	17	17	15	17	10.0	9.5	11.9	11.9	14.2	14.0	13.7
15	Thurs.	33	33	0	0	0	0	0	0	0	17	17	16	17	10.0	9.5	11.9	11.9			
16	Fri.	33	33	0	0	0	0	0	0	0	18	18	16	17	10.0	10.0	11.1	11.9			
17	Sat.	33	33	0	0	0	0	0	0	0	18	18	15	17	10.0	10.0	11.1	11.1			
18	Sun.	33	33								19	17	15								
19	Mon.	33	33	0	0	0	0	0	0	0	17	17	14	17	10.0	10.0	11.1	11.1			
20	Tues.	33	33	0	0	0	0	0	0	0	17	17	14	16	10.0	10.0	11.1	11.1			
21	Wed.	33	33	0	0	0	0	0	0	0	17	17	13	16	10.0	10.0	11.1	11.1	12.9	13.5	13.5
22	Thurs.	33	33	0	0	0	0	0	0	0	17	17	13		10.0	10.0	11.1	11.1			
23	Fri.	33	33	12	0	0	1E	0	0	0	23	17	14	16	8.0	10.0	7.9	11.1			
24	Sat.	33	33	7	0	0	1E	0	0	0	21	16	13	16	8.0	10.0	7.9	11.1			
25	Sun.	33	33								18	19	14								
26	Mon.	33	33	3	0	0	0	0	0	0	18	17	13	15	8.0	9.0	7.9	10.3			
27	Tues.	33	33	3	1	0	0	0	0	0	18	18	13	15	8.0	8.5	7.9	9.5			
28	Wed.	33	33	13	3	0	1E	0	0	0	37	18	13	15	8.0	8.5	7.9	8.7			
29	Thurs.	33	33	12	8	0	1E	0	0	0	37	20	14	16	8.0	8.5	7.9	8.7	14.0	13.6	10.4
Average.		34	33	2	0	0	0	0	0	0	20	18	15	17	9.2	9.3	10.6	10.9	13.6	13.6	12.1

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CARBON DIOXIDE.			IRON.		BACTERIA PER CUBIC CENTIMETER.									PRESUMPTIVE TEST B. COLI.						COAGULANT.	January 1912	
							FILTER EFFLUENTS.							RIVER.			FILTERED.					
														Gas.			Gas.					
River.	Settled.	Filtered.	River.	Filtered.	River.	Aerator.	1	2	3	4	5	6	Mixed.	1c.c.	5c.c.	L. L. Agar.	1c.c.	5c.c.	L. L. Agar.	GRAINS PER GALLON.	Day.	Date.
2.0	2.0	1.5			254	354	28	58	46		28	80	37	—	—	—	—	—	—	.24	Mon.	1
2.0	2.0	1.5			234	212	31	72	38		21	52	43	—	—	—	—	—	—	.19	Tues.	2
1.5	2.0	2.0			165	283	10	23	22		19	35	30	—	—	—	—	—	—	.19	Wed.	3
1.5	1.5	2.0			205	238	59	33	25		24	33	32	—	—	—	—	—	—	.20	Thurs.	4
2.0	2.0	1.5			117	220	60	40	47		37	44	45	—	—	—	—	—	—	.17	Fri.	5
2.0	1.5	1.5			122	255	20	21	17		18	54	27	—	+	—	—	—	—	.16	Sat.	6
																				.17	Sun.	7
1.5	1.5	1.5			175	149	15	14	5	36	14	24	15	—	—	—	—	—	—	.00	Mon.	8
1.5	2.0	1.5			142	132	12	34		33	18	17	19	—	—	—	—	—	—	.00	Tues.	9
2.0	2.0	1.5			148	188	8	20		29	9	16	17	—	—	—	—	—	—	.00	Wed.	10
2.0	1.5	2.0			172	180	13	16	39	25	25	17	17	—	—	—	—	—	—	.00	Thurs.	11
1.5	1.5	1.5			194	228	16	18	23	30	36	13	19	—	—	—	—	—	—	.00	Fri.	12
2.0	2.0	2.0			192	209	10	15	32	31	21	48	18	—	—	—	—	—	—	.00	Sat.	13
																				.00	Sun.	14
1.5	2.0	2.0			206	170	11	18	10	29	18	19	17	—	—	—	—	—	—	.00	Mon.	15
2.0	2.0	2.0			219	201	10	11	9	41	16	13	11	—	—	—	—	—	—	.00	Tues.	16
2.0	2.0	2.0			181	180	16	18	11	29	8	12	21	—	—	—	—	—	—	.00	Wed.	17
2.0	2.0	1.5			255	149	26	14		28	14	13	25	—	—	—	—	—	—	.00	Thurs.	18
2.0	2.0	2.0			220	175	25	40		35	18	25	27	—	—	—	—	—	—	.00	Fri.	19
2.0	2.0	2.0			323	156	13	15		23	10	29	18	—	—	—	—	—	—	.22	Sat.	20
																				.20	Sun.	21
2.0	2.0	2.0			394	277	7	10		53	19	12	15	—	—	—	—	—	—	.00	Mon.	22
2.0	2.0	2.0			358	345	16	24		106	8	15	21	—	—	—	—	—	—	.00	Tues.	23
2.0	2.0	2.0			375	450	23	19		143	24	33	53	—	—	—	—	—	—	.00	Wed.	24
2.0	2.0	2.0			385	465	43	34	8	136	14	25	37	—	—	—	—	—	—	.00	Thurs.	25
2.0	2.0	2.0			288	413	24	17	5	128	18	15	28	—	—	—	—	—	—	.00	Fri.	26
2.0	2.0	2.0			244	434	13	16	8	92	6	11	21	—	—	—	—	—	—	.00	Sat.	27
																				.00	Sun.	28
2.0	2.0	1.5			220	207	19	18	17	76	15	12	32	—	—	—	—	—	—	.00	Mon.	29
2.0	2.0	2.0			175	187	15	17	13	64	17	60	25	—	—	—	—	—	—	.00	Tues.	30
2.0	2.0	2.0			268	305	13	19	27	56	15	39	17	—	—	—	—	—	—	.00	Wed.	31
1.9	1.9	1.8			231	250	21	24	21	58	18	28	25	—	—	—	—	—	—	.06	Average.	

February—1912

2.0	2.0	2.0			387	317	21	27	25	81	49	25	35	—	—	—	—	—	—	.00	Thurs.	1
2.0	2.0	2.0			247	270	22	11	6	38	40	15	17	—	—	—	—	—	—	.00	Fri.	2
2.0	2.0	2.0			196	257	5	5	10	31	5	8	12	—	—	—	—	—	—	.00	Sat.	3
																				.00	Sun.	4
2.0	2.0	2.0			198	140	13	13	23	40	59	26	22	—	—	—	—	—	—	.00	Mon.	5
2.0	3.0	2.0	0.40	0.20	266	247	58	8	17	39	9	8	16	—	—	—	—	—	—	.00	Tues.	6
2.0	2.5	1.5			284	240	16	8	12	27	60	43	31	—	—	—	—	—	—	.00	Wed.	7
2.0	2.0	2.5			231	196	25	2	9	14	29	22	10	—	—	—	—	—	—	.00	Thurs.	8
2.0	2.0	2.0			154	228	15	4	11	19	8	32	10	—	—	—	—	—	—	.00	Fri.	9
2.0	2.0	2.0			204	246	5	9	6	14	31	26	8	—	—	—	—	—	—	.00	Sat.	10
																				.00	Sun.	11
2.0	2.0	2.0			239	203	6	5	5	15	8	4	8	—	—	—	—	—	—	.00	Mon.	12
2.0	2.0	2.0	0.30	0.20	216	231	10	5	8	12	11	7	10	—	—	—	—	—	—	.00	Tues.	13
1.5	2.0	2.0			254	268	4	5	15	16	26	9	8	—	—	—	—	—	—	.00	Wed.	14
2.0	2.0	2.0			260	250	19	8	15	27	12	10	12	—	—	—	—	—	—	.00	Thurs.	15
2.0	2.0	2.0			217	201	11	5	14	23	9	8	14	—	—	—	—	—	—	.00	Fri.	16
2.0	2.0	2.0			203	189	8	7	9	19	16	5	7	—	—	—	—	—	—	.00	Sat.	17
																				.00	Sun.	18
2.0	2.0	2.0			206	193	10	7	5	7	5	13	6	—	—	—	—	—	—	.00	Mon.	19
2.0	2.0	2.0	0.20	0.20	196	131	12	4	13	19	10	32	12	—	—	—	—	—	—	.00	Tues.	20
2.0	2.0	2.0			327	161	7	3	19	4	5	8	7	—	—	—	—	—	—	.00	Wed.	21
2.0	2.0	2.0			408	241	8	6	10	8	8	7	9	—	—	—	—	—	—	.00	Thurs.	22
2.0	2.0	2.0			606	574	14	7	30	19	13	49	22	—	—	—	—	—	—	.00	Fri.	23
2.0	2.0	2.0			691	650	14	21	32	33	29	63	30	—	—	—	—	—	—	.00	Sat.	24
																				.00	Sun.	25
2.0	2.0	2.0			640	800	15	14	27	70	20	17	25	—	—	—	—	—	—	.00	Mon.	26
2.0	2.0	2.0	0.20	0.15	1596	1722	14	11	37	45	9	25	19	—	—	—	—	—	—	.00	Tues.	27
3.0	2.0	2.0			1020	980	14	18	40	39	16	45	21	—	—	—	—	—	—	.31	Wed.	28
2.5	2.0	2.0			1050	1260	12	21	34	41	23	39	22	—	—	—	—	—	—	.26	Thurs.	29
2.0	2.1	2.0	0.27	0.19	416	408	14	9	17	28	20	22	16	—	—	—	—	—	—	.02	Average.	

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Date.	Day.	TEMPERATURE F. River.	TEMPERATURE F. Filtered.	TURBIDITY. River.	TURBIDITY. Settled.	TURBIDITY. Filtered.	ODOR. Hot. River.	ODOR. Hot. Filt'd.	ODOR. Cold. River.	ODOR. Cold. Filt'd.	COLOR. River.	COLOR. Settled.	COLOR. Filtered.	COLOR. City.	ALKALINITY. River.	ALKALINITY. Filtered.	HARDNESS. River.	HARDNESS. Filtered.	OXYGEN DISSOLVED. Settled.	OXYGEN DISSOLVED. Aerator.	OXYGEN DISSOLVED. Filtered.
March 1912																					
1	Fri.	33	33	7	9	0	1E	0	0	0	37	19	14	16	8.0	8.0	7.9	8.7			
2	Sat.	33	33	7	11	0	1v	0	0	0	38	26	12	16	7.5	6.5	7.9	8.7			
3	Sun.	33	33								37	26	12								
4	Mon.	33	33	2	7	0	1v	0	0	0	33	26	13	16	7.5	6.5	8.7	8 7			
5	Tues.	33	33	0	6	0	1v	0	0	0	33	27	13	15	8.0	6.5	8.7	9.5			
6	Wed.	33	33	0	7	0	1v	0	0	0	33	27	13	16	8.0	6.5	9.5	9.5	13.8	13.6	13.5
7	Thurs.	33	33	0	6	0	1v	0	0	0	28	27	16	16	8.0	6.5	9.5	9.5			
8	Fri.	33	33	0	6	0	1v	0	0	0	27	27	15	17	8.0	6.5	9.5	9.5			
9	Sat.	33	33	0	6	0	1v	0	0	0	28	25	15	16	8.0	6.5	9.5	9.5			
10	Sun.	33	33								33	27	15								
11	Mon.	33	33	0	7	0	1v	0	0	0	27	27	15	20	8.0	7.0	9.5	9.5			
12	Tues.	33	33	0	6	0	1v	0	0	0	26	26	13	20	8.0	7.0	9.5	9.5			
13	Wed.	33	33	0	6	0	1v	0	0	0	33	26	13	18	8.0	7.0	9.5	9.5			
14	Thurs.	33	33	17	9	0	1v	0	0	0	37	26	13	17	8.0	7.0	10.3	11.1	13.6	14.2	12.8
15	Fri.	33	33	8	9	0	1v	0	0	0	36	18	13	16	6.5	7.0	9.5	9.5			
16	Sat.	33	33	34	15	0	2E	0	0	0	47	24	13	15	5.5	5.5	8.7	10.3			
17	Sun.	33	33								37	24	13								
18	Mon.	34	34	9	14	0	1E	0	0	0	36	23	12	15	6.5	5.5	9.5	9.5			
19	Tues.	34	34	7	13	0	1v	0	0	0	33	21	12	15	6.0	4.5	9.5	8.7			
20	Wed.	35	35	8	12	0	1v	0	0	0	33	22	13	15	6.0	4.5	7.9	8.7			
21	Thurs.	35	35	2	8	0	1v	0	0	0	33	26	13	15	6.0	4.0	7.9	8.7	11.1	13.9	13.5
22	Fri.	34	34	0	7	0	1v	0	0	0	33	17	13	15	5.5	4.5	7.9	8.7			
23	Sat.	33	34	0	7	0	1v	0	0	0	33	17	12	15	6.0	4.0	7.9	8.7			
24	Sun.	33	34								33	21	12								
25	Mon.	33	33	0	8	0	1v	0	0	0	33	18	12	14	6.0	3.5	7.9	8.7			
26	Tues.	34	33	0	7	0	1v	0	0	0	31	18	12	14	6.0	4.5	7.9	8.7			
27	Wed.	34	34	0	7	0	1v	0	0	0	27	17	12	13	6.0	4.5	7.9	8.7	14.1	13.9	13.6
28	Thurs.	35	34	14	6	0	2E	0	1E	0	32	18	11	13	6.0	4.5	7.9	8.7			
29	Fri.	36	36	12	6	0	2E	0	1E	0	32	20	12	13	6.0	4.5	7.9	8.7			
30	Sat.	35	36	11	7	0	1E	0	0	0	37	21	10	14	5.0	5.0	7.1	8.7			
31	Sun.	35	36								34	18	10								
	Average.	34	34	53	8	0	1v	0	0	0	33	23	13	16	6.8	5.7	8.7	9.2	14.1	13.9	13.3

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1	Mon.	36	36	6	6	0	1v	0	0	0	33	21	11	13	6.0	4.5	7.9	8.7			
2	Tues.	37	37	6	7	0	1v	0	0	0	32	22	11	13	5.0	4.0	7.9	9.5			
3	Wed.	35	37	12	8	0	2v	0	0	0	36	21	11	12	4.0	4.5	6.3	9.5			
4	Thurs.	35	37	4	7	0	2v	0	0	0	32	21	12	12	5.0	4.0	7.1	9.5			
5	Fri.	37	37	2	7	0	2v	0	0	0	32	21	12	13	5.5	3.5	7.9	9.5	13.1	12.3	11.1
6	Sat.	38	38	2	7	0	1v	0	0	0	32	21	12	12	6.0	4.0	9.5	9.5			
7	Sun.	38	39								33	21	12								
8	Mon.	38	39	11	6	0	2v	0	1v	0	37	23	13	13	4.5	4.0	7.1	9.5			
9	Tues.	38	39	7	8	0	2v	0	1v	0	34	22	12	13	5.5	4.0	8.7	9.5			
10	Wed.	38	39	3	7	0	2v	0	1v	0	37	23	12	13	6.0	4.0	9.5	9.5			
11	Thurs.	38	38	2	6	0	2v	0	1v	0	33	23	13	13	6.0	4.0	9.5	9.5			
12	Fri.	38	38	0	6	0	2v	0	0	0	32	23	13	15	6.0	4.0	9.5	9.5	12.9	13.1	12.5
13	Sat.	38	39	0	6	0	1v	0	0	0	32	23	13	15	6.0	4.0	9.5	9.5			
14	Sun.	39	40								33	23	13								
15	Mon.	39	40	0	6	0	1v	0	0	0	33	24	14	15	6.0	4.0	9.5	9.5			
16	Tues.	39	41	0	6	0	1v	0	0	0	33	26	13	15	7.5	4.5	9.5	9.5			
17	Wed.	42	42	17	6	0	1E	0	0	0	36	23	15	15	10.0	5.0	9.5	9.5			
18	Thurs.	44	44	9	6	0	1v	0	0	0	36	23	13	16	6.0	6.0	9.5	9.5			
19	Fri.	42	44	4	7	0	2v	0	0	0	37	27	17		6.0	6.0	9.5	9.5	12.5	12.6	12.0
20	Sat.	42	44	3	7	0	2v	0	0	0	37	27	16	17	6.0	6.0	9.5	9.5			
21	Sun.	40	44								33	27	16								
22	Mon.	42	44	0	6	0	2v	0	0	0	37	27	16	17	7.0	6.0	11.1	9.5			
23	Tues.	43	44	0	6	0	2v	0	0	0	33	26	15	17	7.0	6.0	11.1	9.5			
24	Wed.	42	44	0	6	0	2v	0	0	0	32	25	12	17	7.0	6.0	11.1	9.5			
25	Thurs.	42	44	0	6	0	2v	0	0	0	32	26	13	15	7.0	6.0	11.1	9.5	12.1	12.2	10.3
26	Fri.	43	44	6	6	0	2E	0	1E	0	36	26	12	15	8.0	5.5	11.1	10.3			
27	Sat.	43	44	0	6	0	2v	0	0	0	35	26	13	15	8.0	5.5	11.1	10.1			
28	Sun.	43	45								33	24	12								
29	Mon.	44	46	0	6	0	1v	0	0	0	32	23	11	14	8.0	6.5	9.5	10.3			
30	Tues.	42	44	4	6	0	1E	0	0	0	32	22	12	15	8.0	6.0	11.1	10.3			
	Average.	40	41	4	6	0	2v	0	0	0	34	24	13	14	6.4	4.9	9.4	9.6	12.7	12.5	11.5

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CARBON DIOXIDE.			IRON.		BACTERIA PER CUBIC CENTIMETER.									PRESUMPTIVE TEST B. COLI.						COAGULANT.	March 1912	
							FILTER EFFLUENTS.							RIVER.			FILTERED.					
														Gas.			Gas.					
River.	Settled.	Filtered.	River.	Filtered.	River.	Aerator.	1	2	3	4	5	6	Mixed.	1c.c.	5c.c.	L. L. Agar.	1c.c.	5c.c.	L. L. Agar.	GRAINS PER GALLON.	Day.	Date.
1.5	2.0	2.0			1230	2260	33	35	39	36	8	10	18	—	—	—	—	—	—	.26	Fri.	1
2.5	3.0	2.5			850	1790	17	53	37	35	19	15	30	—	—	—	—	—	—	.25	Sat.	2
																				.21	Sun.	3
2.0	2.0	2.0			750	1160	16	20	34	37	28	18	20	—	—	—	—	—	—	.27	Mon.	4
2.0	3.0	2.5	0.20	0.15	460	820	14	17	28	36	22	14	22	—	—	—	—	—	—	.21	Tues.	5
2.0	2.0	2.0			510	680	25	24	27	26	18	40	24	—	—	—	—	—	—	.21	Wed.	6
2.0	2.0	2.0			460	860	24	29		27	50	25	22	—	—	—	—	—	—	.19	Thurs.	7
2.0	2.0	2.0			630	530	15	24		24	30	32	24	—	—	—	—	—	—	.18	Fri.	8
2.0	2.0	2.0			340	580	36	22		33	24	30	18	—	—	—	—	—	—	.18	Sat.	9
																				.22	Sun.	10
2.5	4.0	2.0			1330	880	22	33		26	56	33	26	—	—	—	—	—	—	.20	Mon.	11
2.5	2.5	2.0	0.20	0.15	980	1080	34	26	39	37	11	31	28	—	—	—	—	—	—	.13	Tues.	12
2.5	2.5	2.0			950	1030	35	42	59	42		35	38	—	—	—	—	—	—	.42	Wed.	13
3.0	3.0	2.0			930	1010	28	26	82	48		51	43	—	—	—	—	—	—	.41	Thurs.	14
2.5	2.0	2.0			2220	1160	20	11	81	31	44	30	61	—	—	—	—	—	—	.30	Fri.	15
3.0	3.0	2.0			3430	1640	18	14	85	53	27	31	38	—	—	—	—	—	—	.39	Sat.	16
																				.38	Sun.	17
2.0	2.0	2.0			1480	1230		25	98	27	69	15	45	—	—	—	—	—	—	.28	Mon.	18
2.5	2.5	2.0	0.20	0.20	2350	2040	84		231	70	144	30	178	—	—	—	—	—	—	.25	Tues.	19
2.5	2.5	2.0			1570	2070	185		162	53	123	84	118	—	—	—	—	—	—	.25	Wed.	20
2.0	2.5	2.0			1400	2110	97	46	183	34	90	11	56	—	—	—	—	—	—	.26	Thurs.	21
2.0	2.0	2.0			850	1530	69	122	63		54	10	64	—	—	—	—	—	—	.26	Fri.	22
2.0	2.0	2.0			550	1190	41	52	42	22	41	18	52	—	—	—	—	—	—	.26	Sat.	23
																				.28	Sun.	24
2.0	2.0	2.0			560	980	31	33	39	94	32		44	—	—	—	—	—	—	.24	Mon.	25
2.0	2.0	2.0	0.20	0.20	490	760	51	55	48	64	80		56	—	—	—	—	—	—	.19	Tues.	26
2.0	2.0	2.0			470	750	40	26	33	30	50	65	35	—	—	—	—	—	—	.14	Wed.	27
2.0	2.0	2.0			410	800	19	14	36	40	37	26	21	—	—	—	—	—	—	.19	Thurs.	28
2.5	2.5	2.0			450	770	21	17	38	35	39	24	26	—	—	1	—	—	—	.25	Fri.	29
2.5	2.5	2.0			1920	840	11	26	19	23	9	22	16	—	—	—	—	—	—	.19	Sat.	30
																				.27	Sun.	31
2.2	2.4	2.0	0.20	0.17	1061	1175	40	33	68	39	45	29	39	—	—	—	—	—	—	.21	Average.	

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2.0	2.0	2.0			720	690	23	19	13	17	14	38	16	—	—	—	—	—	—	.22	Mon.	1
2.0	2.0	2.0	.40	.20	910	760	9	20	27	28		39	15	—	—	—	—	—	—	.19	Tues.	2
2.0	2.0	2.0			1540	620	12	24	14	22		39	16	—	—	—	—	—	—	.24	Wed.	3
2.0	2.0	2.0			680	1170	7	12	45	37		40	15	—	—	—	—	—	—	.20	Thurs.	4
2.0	2.0	2.0			472	460	9		13	26	81	32	20	—	—	—	—	—	—	.21	Fri.	5
2.0	2.0	2.0			480	430	30		8	11	44	24	20	—	—	—	—	—	—	.20	Sat.	6
																				.21	Sun.	7
2.0	2.0	2.0			1552	610	6		7	27	17	33	21	—	—	—	—	—	—	.26	Mon.	8
2.0	2.0	2.0			640	810	7		12	30	38	10	20	—	—	—	—	—	—	.20	Tues.	9
2.0	2.0	2.0			630	450		36	16	24	53	32	24	—	—	—	—	—	—	.22	Wed.	10
2.0	2.0	2.0	.20	.20	210	650		51	15	28	47	34	29	—	—	—	—	—	—	.19	Thurs.	11
2.0	2.0	2.0			390	340		33	18	26	42	40	30	—	—	—	—	—	—	.20	Fri.	12
2.0	2.0	2.0			150	220		34	7	22	52	22	27	—	—	—	—	—	—	.21	Sat.	13
																				.24	Sun.	14
2.0	2.0	2.0			240	290	25	34		13	32	17	20	—	—	—	—	—	—	.22	Mon.	15
2.5	2.5	2.0			380	290	45	64		34	77	46	43	—	—	—	—	—	—	.20	Tues.	16
2.0	2.0	2.0	.80	.40	290	830	16	30		16	24	36	23	—	—	—	—	—	—	.21	Wed.	17
2.0	2.0	2.0			310	370	15	18		16	80	42	21	—	—	—	—	—	—	.21	Thurs.	18
2.0	2.0	2.0			250	370	28	21		27	51	15	26	—	—	—	—	—	—	.22	Fri.	19
2.5	2.0	2.0			260	270	25	23		24	48	20	27	—	—	—	—	—	—	.32	Sat.	20
																				.22	Sun.	21
2.5	2.0	2.0			260	350	37	32		36	50	43	27	—	—	—	—	—	—	.25	Mon.	22
2.0	2.0	2.0			270	210	25	15		16	57	15	38	—	—	—	—	—	—	.19	Tues.	23
2.0	2.0	2.0	.40	.30	230	320	24	32		23	28	16	27	—	—	—	—	—	—	.20	Wed.	24
2.0	2.0	2.0			180	300	20	19		22	19	18	21	—	—	—	—	—	—	.20	Thurs.	25
2.5	2.0	2.0			210	220	20	28		30	21	26	18	—	—	—	—	—	—	.20	Fri.	26
2.5	2.5	2.0			290	280	24	27		26	25	22	23	—	—	—	—	—	—	.24	Sat.	27
																				.23	Sun.	28
2.0	2.0	2.0			310	230	27	43		38	51	32	35	—	—	—	—	—	—	.21	Mon.	29
2.0	2.0	2.0	.20	.15	500	420	9	20	25	15	16	14	16	—	—	—	—	—	—	.21	Tues.	30
2.1	2.0	2.0	.40	.23	475	456	20	29	17	24	42	29	24	—	—	—	—	—	—	.22	Average.	

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May 1912		TEMPERATURE F.		TURBIDITY.			ODOR.				COLOR.				ALKALINITY.		HARDNESS.		OXYGEN DISSOLVED.		
							Hot.		Cold.												
Date.	Day.	River.	Filtered.	River.	Settled.	Filtered.	River.	Filt'd.	River.	Filt'd.	River.	Settled.	Filtered.	City.	River.	Filtered.	River.	Filtered.	Settled.	Aerator.	Filtered.
1	Wed.	42	44	0	4	0	1v	0	0	0	32	22	11	15	8.0	6.5	9.5	9.5			
2	Thurs.	43	45	0	4	0	1v	0	0	0	30	21	11	14	8.0	6.0	9.5	9.5	12.0	12.0	11.5
3	Fri.	45	45	8	6	0	1e	0	0	0	31	21	11	13	8.0	6.0	9.5	9.5			
4	Sat.	46	46	0	4	0	1v	0	0	0	31	22	11	14	8.0	6.5	9.5	9.5			
5	Sun.	45	47								32	22	11								
6	Mon.	46	47	0	3	0	1v	0	0	0	31	23	12	14	8.0	6.0	9.5	9.5			
7	Tues.	46	48	0	3	0	1v	0	0	0	36	25	12	15	8.0	7.0	9.5	9.5			
8	Wed.	46	48	2	4	0	1v	0	0	0	37	26	12	14	8.0	6.0	9.5	9.5			
9	Thurs.	47	48	2	5	0	1e	0	0	0	36	27	12	15	8.0	6.5	9.5	9.5			
10	Fri.	48	48	0	4	0	1v	0	0	0	33	25	13	15	8.0	6.5	9.5	9.5	11.6	11.5	10.7
11	Sat.	48	49	0	3	0	1v	0	0	0	34	26	14	16	8.0	6.0	9.5	9.3			
12	Sun.	49	50								37	26	15								
13	Mon.	50	50	0	3	0	1v	0	0	0	33	26	13	16	8.0	6.5	9.5	9.5			
14	Tues.	49	50	0	3	0	1v	0	0	0	36	26	14	16	8.0	6.0	9.5	9.5			
15	Wed.	50	50	0	3	0	1v	0	0	0	36	26	14	16	8.0	6.5	9.5	9.5	10.8	11.1	10.3
16	Thurs.	51	52	0	3	0	1v	0	0	0	36	26	14	16	8.0	6.0	9.5	9.5			
17	Fri.	50	51	7	3	0	2v	0	0	0	47	27	15	16	7.0	6.5	8.7	9.5			
18	Sat.	51	52	2	4	0	2v	0	0	0	46	27	15	16	7.0	6.5	8.7	9.5			
19	Sun.	51	53								43	27	13								
20	Mon.	52	53	2	3	0	2v	0	0	0	43	27	14	16	7.5	6.0	9.5	9.5			
21	Tues.	53	54	2	4	0	2v	0	0	0	39	26	13	15	8.0	5.0	9.5	9.5			
22	Wed.	53	54	2	4	0	2v	0	0	0	38	26	13	15	8.0	5.0	9.5	9.5			
23	Thurs.	53	54	3	4	0	2v	0	0	0	39	27	14	16	8.0	5.5	9.5	9.5			
24	Fri.	54	55	2	4	0	2v	0	0	0	36	27	13	16	8.0	5.5	9.5	9.5			
25	Sat.	55	56	2	4	0	2v	0	0	0	37	27	15	15	8.0	6.0	9.5	9.5	9.6	10.0	9.3
26	Sun.	55	57								42	27	15								
27	Mon.	56	58	2	4	0	2v	0	0	0	42	28	15	17	9.0	6.0	11.1	9.5			
28	Tues.	57	58	1	3	0	2v	0	0	0	42	27	15	17	9.0	6.0	11.1	9.5			
29	Wed.	58	59	1	4	0	2v	0	0	0	42	29	16	17	10.0	6.5	12.7	11.1			
30	Thurs.	58	59	2	4	0	2v	0	0	0	40	28	16		10.0	6.5	12.7	11.1			
31	Fri.	58	59	12	8	0	2v	0	1v	0	67	32	16	17	6.5	7.5	8.7	11.1			
Average.		51	52	2	4	0	2v	0	0	0	38	26	13	15	8.1	6.2	9.8	9.7	11.0	11.1	10.5
June—1912																					
1	Sat.	56	58	6	8	0	2v	0	1v	0	62	31	16	17	8.5	8.0	10.3	11.1	9.6	9.9	8.5
2	Sun.	56	58								58	32	16								
3	Mon.	58	59	2	8	0	2v	0	1v	0	56	31	16	17	8.0	7.5	9.5	11.1			
4	Tues.	60	59	2	8	0	2v	0	1v	0	54	31	16	17	8.5	6.0	10.3	11.1			
5	Wed.	60	60	2	8	0	2v	0	1v	0	52	29	16	17	8.0	5.0	9.5	10.3			
6	Thurs.	59	60	1	8	0	2v	0	1v	0	48	31	16	17	10.0	4.0	11.1	9.5			
7	Fri.	58	60	1	7	0	2v	0	1v	0	46	31	16	17	9.0	4.0	9.5	9.5	9.6	9.6	8.6
8	Sat.	57	59	1	6	0	2v	0	1v	0	44	31	16	17	9.5	5.5	11.1	9.5			
9	Sun.	57	59								43	30	16								
10	Mon.	56	58	1	6	0	2v	0	1v	0	43	31	16	17	10.0	6.5	11.1	11.1			
11	Tues.	56	58	1	4	0	2v	0	1v	0	42	31	16	17	10.0	6.5	11.1	11.1			
12	Wed.	57	58	1	4	0	2v	0	1v	0	41	28	17	17	10.0	6.5	11.1	11.1			
13	Thurs.	58	58	1	4	0	2v	0	1v	0	40	28	17	18	10.0	7.5	11.1	11.1			
14	Fri.	59	59	1	4	0	2v	0	1v	0	38	27	17	18	11.0	7.5	12.7	11.1			
15	Sat.	59	59	1	4	0	2v	0	1v	0	35	28	17	18	12.0	7.5	13.5	11.1	9.6	9.6	8.3
16	Sun.	60	60								32	28	17								
17	Mon.	60	60	1	3	0	2v	0	1v	0	28	26	21	18	12.0	8.0	14.3	11.9			
18	Tues.	60	60	1	3	0	2v	0	1v	0	27	27	17	18	12.0	9.0	14.3	12.7			
19	Wed.	60	61	1	3	0	2v	0	1v	0	27	28	18	18	12.0	9.0	14.3	12.7			
20	Thurs.	61	62	1	3	0	2v	0	1v	0	27	27	17	18	12.0	9.5	14.3	13.5			
21	Fri.	62	62	1	3	0	2v	0	1v	0	27	25	18	17	12.0	10.0	14.3	13.5	9.3	8.7	7 3
22	Sat.	63	64	1	3	0	2v	0	1v	0	26	27	16	17	13.0	10.0	14.3	13.5			
23	Sun.	63	64								26	27	16								
24	Mon.	64	64	1	3	0	2v	0	1v	0	26	26	16	17	15.0	12.0	15.6	13.5			
25	Tues.	64	64	1	4	0	2v	0	1v	0	30	26	16	16	14.0	13.0	14.3	14.3			
26	Wed.	64	66	1	4	0	2v	0	1v	0	32	26	17	16	14.0	13.0	14.3	14.3			
27	Thurs.	65	66	1	3	0	2v	0	1v	0	32	26	19	16	13.0	13.5	13.5	14.3			
28	Fri.	64	66	6	3	0	2v	0	1v	0	36	26	19	16	13.0	12.5	13.5	13.5			
29	Sat.	64	66	3	3	0	2v	0	1v	0	34	26	19	16	11.0	11.0	12.7	13.5	9.3	8.4	7.2
30	Sun.	64	65								34	28	20								
Average.		60	61	2	5	0	2v	0	1v	0	38	28	17	17	11.0	8.5	12.4	12.0	9.5	9.2	8.0

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CARBON DIOXIDE.			IRON.		BACTERIA PER CUBIC CENTIMETER.									PRESUMPTIVE TEST B. COLI.						COAGULANT.	May 1912	
							FILTER EFFLUENTS.							RIVER.			FILTERED.					
														Gas.			Gas.					
River.	Settled.	Filtered.	River.	Filtered.	River.	Aerator.	1	2	3	4	5	6	Mixed.	1c.c.	5c.c.	L. L. Agar.	1c.c.	5c.c.	L. L. Agar.	GRAINS PER GALLON.	Day.	Date.
2.5	2.0	2.0			510	330	17	16	20	29	21	23	22	—	—	—	—	—	—	.18	Wed.	1
2.5	2.0	2.0			240	280	7	8	21	41	17	12	18	—	—	—	—	—	—	.18	Thurs.	2
2.5	2.0	2.0			340	320	37	42	50	40	19	16	23	—	—	—	—	—	—	.18	Fri.	3
2.5	2.5	2.0			300	360	4	17	16	28	24	20	18	—	—	—	—	—	—	.17	Sat.	4
																				.18	Sun.	5
2.5	2.0	2.0			310	350	18	11	21	35	31	17	22	—	—	—	—	—	—	.20	Mon.	6
2.0	2.0	2.0	.20	.15	500	460	7	8	10	25	25	12	14	—	—	—	—	—	—	.22	Tues.	7
2.0	2.0	2.0			490	550	10	25	54	85	81	20	53	—	—	—	—	—	—	.22	Wed.	8
2.0	2.0	2.0			440	460	7	14	11		13	27	15	—	—	—	—	—	—	.20	Thurs.	9
2.0	2.0	2.0			460	430	10	13	10		12	22	16	—	—	—	—	—	—	.21	Fri.	10
2.0	2.0	2.0			370	250	24	19	27		29	14	18	—	—	—	—	—	—	.21	Sat.	11
																				.22	Sun.	12
2.5	2.0	2.0			380	350	52	10	23		15	34	30	—	—	—	—	—	—	.20	Mon.	13
2.0	2.0	2.0	.20	.15	510	400	13	12	15		27	19	16	—	—	—	—	—	—	.20	Tues.	14
2.0	2.0	2.0			500	380	5	6	13		17	11	10	—	—	—	—	—	—	.20	Wed.	15
2.0	2.0	2.0			390	480	22	21	12	17	29	8	17	—	—	—	—	—	—	.20	Thurs.	16
2.0	2.0	2.0			480	510	24	23	18	25	31	15	21	—	+*	2	—	—	—	.38	Fri.	17
2.0	2.0	2.0			490	460	15	10	10	22	10	12	13	—	—	—	—	—	—	.40	Sat.	18
																				.31	Sun.	19
2.0	2.0	2.0			380	460	18	24	17	21	25		21	—	—	—	—	—	—	.30	Mon.	20
2.0	2.0	2.0	.20	.15	340	340	30	16	15	12	14	10	18	—	—	—	—	—	—	.26	Tues.	21
2.0	2.0	2.0			320	350	24		18	22	15	11	16	—	—	—	—	—	—	.25	Wed.	22
2.0	2.0	2.0			350	360	35	72	28	38	27	25	36	—	—	—	—	—	—	.26	Thurs.	23
2.0	2.0	2.0			380	330	38	62	32	40	32	27	34	—	—	—	—	—	—	.22	Fri.	24
2.0	2.0	2.0			520	470	39	22	26	19		26	34	—	—	—	—	—	—	.21	Sat.	25
2.0	2.0	2.0																		.29	Sun.	26
2.0	2.0	2.0			540	530	40	38	29	28	52	71	41	—	—	—	—	—	—	.25	Mon.	27
2.0	2.0	2.0			500	550	35	34	23	25	45	54	38	—	—	—	—	—	—	.26	Tues.	28
2.5	2.5	2.5			450	380	12	25	12	6	15	11	18	—	—	—	—	—	—	.30	Wed.	29
2.5	2.5	2.5			560	310	16	12	13	33	10	14	17	—	—	—	—	—	—	.28	Thurs.	30
2.5	2.5	2.5	.40	.20	2840	1590	5	55	8	11	42	9	33	—	—	—	—	—	—	.77	Fri.	31
2.2	2.1	2.1	.25	.16	514	446	21	24	20	29	26	21	23	—	—	—	—	—	—	.25	Average.	

* Under B. Coli. found positive on confirmation test.

June—1912

2.5	2.5	2.5			1790	990	4	11	8	8	22	9	12	—	—	—	—	—	—	.68	Sat.	1
																				.59	Sun.	2
2.5	2.5	2.0			950	510	13	16	12	4	24	12	20	—	—	—	—	—	—	.66	Mon.	3
2.5	3.0	2.5			1260	570		28	30	11	31	12	18	—	—	—	—	—	—	.54	Tues.	4
2.5	2.5	2.5	.20	.05	1290	500	12	21	17	10	36	9	18	—	—	—	—	—	—	.51	Wed.	5
2.5	2.5	2.5			820	570	13	11	14		20	10	13	—	—	—	—	—	—	.38	Thurs.	6
2.5	2.5	2.5			730	370	15	9	7		16	7	10	—	—	—	—	—	—	.39	Fri.	7
3.0	3.0	3.0			570	320	8	8	14		28	12	11	—	—	—	—	—	—	.29	Sat.	8
																				.34	Sun.	9
2.5	2.5	2.5			320	210	8	5	7	38	6		20	—	—	—	—	—	—	.32	Mon.	10
2.5	2.5	2.5	.20	.10	230	220	7	8	5	14	10		12	—	—	—	—	—	—	.29	Tues.	11
2.5	2.5	2.5			250	210	20	12	10	20	16		15	—	—	—	—	—	—	.28	Wed.	12
2.5	2.5	2.5			340	215	8	14	7	12	6		12	—	—	—	—	—	—	.25	Thurs.	13
2.5	2.5	2.5			320	150	6	6	4	9	17	93	16	—	—	—	—	—	—	.19	Fri.	14
2.5	2.5	2.5			250	150	3	4		8	6	38	13	—	—	—	—	—	—	.18	Sat.	15
2.5	2.5	2.5																		.15	Sun.	16
2.5	2.5	2.5			150	160	8		45	18	8	47	26	—	—	—	—	—	—	.10	Mon.	17
2.5	2.5	2.0			120	270	25		64	33	88	50	46	—	+*	—	—	—	—	.10	Tues.	18
2.5	2.5	2.0	.20	.15	350	210	7		33	35	72	32	36	—	—	—	—	—	—	.11	Wed.	19
2.5	2.5	2.5			310	160	25		30	53	48	10	22	—	—	—	—	—	—	.11	Thurs.	20
2.5	2.5	2.5			450	250	11		96	62	96	19	35	—	—	—	—	—	—	.10	Fri.	21
2.5	2.5	2.5			240	230	21		32	54	30	23	26	—	—	—	—	—	—	.00	Sat.	22
																				.00	Sun.	23
2.5	2.5	2.5			210	L	18		35	13	51	L	23	—	—	—	—	—	—	.14	Mon.	24
2.5	2.5	2.5	.25	.15	890	220	13		27	44	53	16	20	—	+	—	—	—	—	.12	Tues.	25
2.5	2.5	2.5			820	450	37		56	47	44	27	37	—	+	2	—	—	—	.15	Wed.	26
2.5	2.5	2.5			680	500	22		30	25		23	24	—	+	—	—	—	—	.12	Thurs.	27
2.5	2.5	2.5			650	490	13		23	12		33	18	—	+	—	—	—	—	.17	Fri.	28
2.5	2.5	2.5			530	430	31		24	14		17	19	—	—	—	—	—	—	.15	Sat.	29
																				.17	Sun.	30
2.5	2.5	2.5	.21	.11	581	348	15	12	26	25	33	25	21	—	—	—	—	—	—	.25	Average.	

* Under B. Coli. found positive on confirmation test.

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July 1912		TEMPERATURE F.		TURBIDITY.			ODOR.				COLOR.				ALKALINITY.		HARDNESS.		OXYGEN DISSOLVED.		
							Hot.		Cold.												
Date.	Day.	River.	Filtered.	River.	Settled.	Filtered.	River.	Filt'd.	River.	Filt'd.	River.	Settled.	Filtered.	City.	River.	Filtered.	River.	Filtered.	Settled.	Aerator.	Filtered.
1	Mon.	65	66	1	3	0	2v	0	1v	0	32	28	19	16	11.0	10.0	12.7	12.7			
2	Tues.	65	66	1	3	0	2v	0	1v	0	32	27	16	16	10.0	9.0	11.1	12.7			
3	Wed.	65	66	1	3	0	2v	0	1v	0	31	27	17	16	10.5	9.5	11.9	13.5			
4	Thurs.	66	67	1	3	0	2v	0	1v	0	29	26	16		10.5	9.5	11.9	12.7			
5	Fri.	67	68	1	3	0	2v	0	1v	0	32	27	16	16	11.0	9.5	12.7	12.7			
6	Sat.	67	68	1	3	0	2v	0	1v	0	38	27	17	16	10.0	9.5	11.1	12.7	8.8	8.5	6.5
7	Sun.	67	68								37	29	17								
8	Mon.	68	69	1	3	0	2v	0	1v	0	41	31	18	16	9.0	9.5	10.3	11.1			
9	Tues.	68	70	1	3	0	2v	0	1v	0	40	28	18	17	9.0	8.5	10.3	11.1			
10	Wed.	69	70	1	3	0	2v	0	1v	0	40	31	18	17	9.0	8.5	10.3	11.1			
11	Thurs.	69	70	1	3	0	2v	0	1v	0	42	31	18	17	8.5	8.0	10.3	11.1			
12	Fri.	69	70	1	4	0	2v	0	1v	0	40	32	17	17	8.5	8.0	10.3	11.1	8.1	7.6	6.2
13	Sat.	69	70	1	3	0	2v	0	1v	0	42	32	17	17	8.5	8.0	10.3	11.1			
14	Sun.	69	70								42	32	17								
15	Mon.	69	70	1	3	0	2v	0	1v	0	42	32	17	17	9.0	7.0	11.1	11.1			
16	Tues.	69	70	1	3	0	2v	0	1v	0	42	32	17	17	9.5	7.0	11.1	11.1			
17	Wed.	69	70	1	3	0	2v	0	1v	0	42	32	17	17	9.5	7.5	11.1	11.1			
18	Thurs.	69	70	1	3	0	2v	0	1v	0	42	32	17	17	9.5	7.5	11.1	11.1			
19	Fri.	67	69	1	3	0	2v	0	1v	0	42	32	17	17	9.0	7.5	11.1	11.1	8.2	7.8	6.1
20	Sat.	67	68	1	3	0	2v	0	1v	0	42	32	17	17	9.0	7.5	11.1	11.1			
21	Sun.	66	68								42	32	17								
22	Mon.	65	67	2	3	0	2v	0	1v	0	38	32	17	17	9.0	7.0	11.1	11.1			
23	Tues.	65	66	1	3	0	2v	0	1v	0	38	32	18	17	10.0	7.0	11.9	11.1			
24	Wed.	65	65	1	3	0	2v	0	1v	0	37	31	17	17	10.0	7.0	11.9	11.1			
25	Thurs.	65	65	1	3	0	2v	0	1v	0	35	28	18	17	11.0	7.5	12.7	11.1			
26	Fri.	65	65	1	3	0	2v	0	1v	0	32	29	17	17	11.0	8.5	12.7	11.1	8.2	8.7	7.5
27	Sat.	66	65	1	3	0	2v	0	1v	0	35	30	17	17	11.0	8.5	12.7	11.9			
28	Sun.	66	66								32	28	16								
29	Mon.	65	66	1	3	0	2v	0	1v	0	37	30	16	18	9.0	8.5	11.1	12.7			
30	Tues.	65	66	1	3	0	2v	0	1v	0	37	30	17	17	8.0	8.0	9.5	12.7			
31	Wed.	65	66	1	3	0	2v	0	1v	0	37	30	17	17	8.0	7.5	9.5	12.7			
Average.		67	68	1	3	0	2v	0	1v	0	38	30	17	17	9.6	8.2	11.2	11.7	8.3	8.1	6.6

August—1912

1	Thurs.	65	65	1	3	0	2v	0	1v	0	37	29	17	17	8.0	7.5	9.5	12.7	8.4	8.5	7.2
2	Fri.	64	65	1	3	0	2v	0	1v	0	37	29	18	17	8.0	6.5	9.5	11.1			
3	Sat.	64	65	1	3	0	2v	0	1v	0	37	29	17	17	8.0	6.5	9.5	11.1			
4	Sun.	64	64								37	31	18								
5	Mon.	64	64	1	3	0	2v	0	1v	0	37	29	18	17	8.0	6.5	9.5	11.1			
6	Tues.	63	64	1	3	0	2v	0	1v	0	37	30	18	17	8.0	6.5	9.5	9.5			
7	Wed.	63	64	1	3	0	2v	0	1v	0	37	28	18	17	8.0	6.5	9.5	9.5			
8	Thurs.	63	64	1	3	0	2v	0	1v	0	37	28	17	17	8.0	6.5	9.5	9.5	8.2	8.2	7.4
9	Fri.	64	64	1	3	0	2v	0	1v	0	37	28	17	17	8.0	6.5	9.5	9.5			
10	Sat.	64	65	1	3	0	2v	0	1v	0	36	28	17	17	8.0	6.5	9.5	9.5			
11	Sun.	65	65								33	28	16								
12	Mon.	66	66	1	3	0	2v	0	1v	0	33	27	16	17	8.0	6.5	9.5	9.5			
13	Tues.	67	66	2	3	0	2v	0	1v	0	32	26	17	17	9.0	6.5	11.1	9.5			
14	Wed.	68	68	1	3	0	2v	0	1v	0	32	27	16	17	9.5	6.5	11.9	9.5			
15	Thurs.	69	69	1	3	0	2v	0	1v	0	33	27	17	17	10.0	7.0	12.7	9.5	8.2	7.7	7.2
16	Fri.	68	69	1	3	0	2v	0	1v	0	32	26	17	17	10.0	8.0	12.7	11.1			
17	Sat.	67	68	1	3	0	2v	0	1v	0	32	26	16	17	9.5	8.0	11.9	11.9			
18	Sun.	66	68								37	27	17								
19	Mon.	64	67	1	3	0	2v	0	1v	0	36	27	17	17	10.0	8.0	12.7	12.7			
20	Tues.	64	66	1	3	0	2v	0	1v	0	33	28	17	17	9.0	8.0	11.1	11.9			
21	Wed.	64	65	7	4	0	3v	0	1v	0	37	31	16	17	10.0	8.0	12.7	11.9			
22	Thurs.	64	65	6	4	0	3v	0	1v	0	42	31	17	17	10.0	8.0	12.7	12.7	8.2	8.5	7.3
23	Fri.	64	65	6	4	0	3v	0	1v	0	42	31	17	17	11.0	8.0	13.5	11.1			
24	Sat.	64	64	6	6	0	3v	0	1v	0	40	32	17	17	10.5	8.0	12.7	12.7			
25	Sun.	65	65								37	32	17								
26	Mon.	65	65	4	6	0	3v	0	1v	0	36	31	18	17	12.0	8.0	14.3	12.7			
27	Tues.	66	66	3	4	0	2v	0	1v	0	33	31	17	17	12.0	8.0	14.3	12.7			
28	Wed.	66	66	3	3	0	2v	0	1v	0	36	31	17	17	11.0	10.0	13.5	12.7			
29	Thurs.	65	66	3	4	0	3v	0	1v	0	37	31	17	17	11.0	10.0	13.5	14.3			
30	Fri.	65	66	3	3	0	3v	0	1v	0	37	29	17	17	11.0	10.0	13.5	14.3	8.4	8.7	7.2
31	Sat.	64	65	3	3	0	2v	0	1v	0	33	28	17	17	11.0	9.0	13.5	13.5			
Average.		65	66	2	3	0	2v	0	1v	0	36	29	17	17	9.5	7.6	11.6	11.4	8.3	8.3	7.3

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CARBON DIOXIDE.			IRON.		*BACTERIA PER CUBIC CENTIMETER.									PRESUMPTIVE TEST B. COLI.						COAGULANT.	July 1912	
							FILTER EFFLUENTS.							RIVER.			FILTERED.					
														Gas.			Gas.					
River.	Settled.	Filtered.	River.	Filtered.	River.	Aerator.	1	2	3	4	5	6	Mixed.	1c.c.	5c.c.	L. L. Agar.	1c.c.	5c.c.	L. L. Agar.	GRAINS PER GALLON.	Day.	Date.
2.5	2.5	2.5			220	190	15		21	6		7	16	+	—	—	—	—	—	.16	Mon.	1
2.5	2.5	2.5	.30	.20	186	200	22		23	15	L	5	19	—	—	—	—	—	—	.15	Tues.	2
2.5	2.5	2.5			210	190	20		25	13	40	8	22	—	—	—	—	—	—	.14	Wed.	3
2.5	2.5	2.5			220	140	26	71	28	11	54	10	30	—	+	—	—	—	—	.07	Thurs.	4
2.5	2.5	2.5			220	130	20	48	20	15	50	12	27	—	+	—	—	—	—	.07	Fri.	5
2.5	2.5	2.5			450	150	35	46	17	18	45	12	24	—	+	—	—	—	—	.17	Sat.	6
																				.17	Sun.	7
2.5	3.0	3.0			340	210	25	36	21	16	36	16	24	+	+	—	—	—	—	.25	Mon.	8
2.5	2.5	2.5			370	260	24	20	27	12	21	15	17	—	+	+	—	—	—	.25	Tues.	9
2.5	2.5	3.0	.40	.20	360	190	12	24	12	16	22	8	19	—	+	—	—	—	—	.25	Wed.	10
2.5	2.5	2.5			210	180	11	19	14	9	22	15	16	+	+	—	—	—	—	.24	Thurs.	11
2.5	2.5	2.5			280	200	12	18	17	15	26	22	20	—	+	—	—	—	—	.25	Fri.	12
2.5	2.5	2.5			220	170	14	17	19	24	28	20	20	—	+	—	—	—	—	.24	Sat.	13
																				.22	Sun.	14
2.5	2.5	2.5			280	170	28	18	21	22	26	26	24	—	+	—	—	—	—	.25	Mon.	15
2.5	2.5	2.5	.40	.20	210	140	15	8	19	25	20	28	18	—	+	—	—	—	—	.24	Tues.	16
2.5	2.5	2.5			200	200	22	12	20	23	24	26	22	—	+	—	—	—	—	.24	Wed.	17
2.5	2.5	2.5			210	160	15	6	29	21	13	27	26	—	+	—	—	—	—	.22	Thurs.	18
2.5	2.5	2.5			520	280	18	10	26	24	16	25	24	+	+	—	—	—	—	.26	Fri.	19
2.5	2.5	2.5			480	260		16	19	22	12	24	17	+	+	2	—	—	—	.22	Sat.	20
																				.17	Sun.	21
2.5	2.5	2.5			730	320	85	7	18	12	7	25	13	+	+	—	—	—	—	.21	Mon.	22
2.5	2.5	2.5	.40	.20	480	380	25	5	20	15	10		12	+	+	—	—	—	—	.24	Tues.	23
2.5	2.5	2.5			560	340	23	8	12	18	7	22	13	+	+	2	—	—	—	.24	Wed.	24
2.5	2.5	2.5			300	260	15	5	16		9	20	13	—	+	2	—	—	—	.28	Thurs.	25
2.5	2.5	2.5			520	140	6	4	8	18	4	8	8	+	+	—	—	—	—	.00	Fri.	26
2.5	2.5	2.5			480	150	5	6	20	12	4	10	12	+	+	—	—	—	—	.21	Sat.	27
																				.12	Sun.	28
2.5	2.5	2.5			220	210	8	4		10	6	8	8	—	+	—	—	—	—	.21	Mon.	29
2.5	2.5	2.5			410	340	7	5		16	7	10	9	+	+	—	—	—	—	.24	Tues.	30
2.5	2.5	2.5	.40	.30	280	224	6	5		10	5	10	6	+	+	—	—	—	—	.21	Wed	31
2.5	2.5	2.5	.38	.22	340	214	20	17	20	16	21	16	18	—	+	—	—	—	—	.20	Average.	

August—1912

2.5	2.5	2.5			280	180	7	3		12	4	9	8	—	+	—	—	—	—	.21	Thurs.	1
2.5	2.5	2.5			330	250	8	10		19	9	14	11	+	+	—	—	—	—	.21	Fri.	2
2.5	2.5	2.5			264	210	7	4		5		5	5	—	+	—	—	—	—	.21	Sat.	3
																				.24	Sun.	4
2.5	2.5	2.5			230	150		5		8	27	7	10	+	+	—	—	—	—	.21	Mon.	5
2.5	2.5	2.5			200	140		5		7	22	6	7	—	—	—	—	—	—	.22	Tues.	6
2.5	2.5	2.5			120	190		13		12	64	9	21	—	—	—	—	—	—	.18	Wed.	7
2.5	2.5	2.5	.40	.30	130	110		10		15	31	8	19	—	—	—	—	—	—	.21	Thurs.	8
2.5	2.5	2.5			130	140	16	3		6	10	6	6	—	—	—	—	—	—	.18	Fri.	9
2.5	2.5	2.5			120	150	25	4		10	8	5	6	—	—	—	—	—	—	.21	Sat.	10
																				.15	Sun.	11
2.5	2.5	2.5			250	110	6			5	6	4	6	—	+	—	—	—	—	.15	Mon.	12
2.5	2.5	2.5	.30	.20	220	160	8	12		3	5	4	8	—	+	—	—	—	—	.13	Tues.	13
2.5	2.5	3.0			250	200	7	6		6	10	5	7	—	—	—	—	—	—	.14	Wed.	14
2.5	2.5	2.5			180	160	5	6			4	5	6	—	—	—	—	—	—	.11	Thurs.	15
2.5	2.5	2.5			180	223	14	2			4	10	6	—	+	—	—	—	—	.11	Fri.	16
2.5	2.5	2.5			180	170	6	7			9	4	7	—	+	—	—	—	—	.11	Sat.	17
																				.17	Sun.	18
2.0	2.5	2.5			380	220	7	7		7	7	4	7	—	+	—	—	—	—	.16	Mon.	19
2.5	2.5	2.5	.40	.20	450	240	8	4	75	12	11	5	19	+	+	—	—	—	—	.15	Tues.	20
2.5	2.5	2.5			420	300	5	6	50	20	12	5	12	+	+	1	—	—	—	.19	Wed.	21
2.5	2.5	2.5			400	360	4	2	23	10	8	3	7	+	+	2	—	—	—	.29	Thurs.	22
2.5	2.5	2.5			410	290	4	6	21	8	7	5	8	—	+	2	—	—	—	.29	Fri.	23
2.5	2.5	2.5			420	230	4	8	18	6	8	6	10	—	+	1	—	—	—	.26	Sat.	24
																				.24	Sun.	25
2.5	2.5	2.5			120	170	3	4	10	6	6	3	6	—	+	—	—	—	—	.17	Mon.	26
2.5	2.5	2.5			460	130	2	4	10	5	8	4	6	—	—	—	—	—	—	.18	Tues.	27
2.5	2.5	2.5			250	210	4	5	10	6	8	3	8	—	—	—	—	—	—	.20	Wed.	28
2.5	2.5	2.5	.40	.20	280	290	4	6	5	8	4	6	6	—	—	—	—	—	—	.21	Thurs.	29
2.5	2.5	2.5			180	160	2	6	6	6	3	4	5	—	+	—	—	—	—	.19	Fri.	30
2.5	2.5	2.5			160	170	4	7	8	7	3	5	5	—	—	—	—	—	—	.21	Sat.	31
2.5	2.5	2.5	.39	.23	259	197	7	6	21	9	12	6	9	—	+	—	—	—	—	.19	Average.	

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Date.	Day.	TEMPERATURE F. River.	TEMPERATURE F. Filtered.	TURBIDITY. River.	TURBIDITY. Settled.	TURBIDITY. Filtered.	ODOR. Hot. River.	ODOR. Hot. Filt'd.	ODOR. Cold. River.	ODOR. Cold. Filt'd.	COLOR. River.	COLOR. Settled.	COLOR. Filtered.	COLOR. City.	ALKALINITY. River.	ALKALINITY. Filtered.	HARDNESS. River.	HARDNESS. Filtered.	OXYGEN DISSOLVED. Settled.	OXYGEN DISSOLVED. Aerator.	OXYGEN DISSOLVED. Filtered.
September 1912																					
1	Sun.	63	64								37	31	17	17							
2	Mon.	61	62								36	28	17	17							
3	Tues.	60	62	8	3	0	3v	0	1v	0	47	32	16	17	9.5	9.5	12.7	13.5			
4	Wed.	60	61	7	4	0	3v	0	1v	0	47	33	17	17	10.0	9.0	12.7	13.5			
5	Thurs.	60	60	6	4	0	3v	0	1v	0	47	33	18	17	10.0	9.0	12.7	13.5			
6	Fri.	60	61	7	4	0	3v	0	1v	0	43	33	18	17	10.5	9.0	11.1	13.5	8.8	8.5	7.2
7	Sat.	61	60	6	3	0	3v	0	1v	0	46	33	17	18	10.0	8.5	12.7	12.7			
8	Sun.	62	62				2v	0	1v	0	45	32	18								
9	Mon.	64	61	6	4	0	2v	0	1v	0	45	32	18	18	10.0	8.5	12.7	12.7			
10	Tues.	63	61	7	4	0	3v	0	1v	0	46	32	18	18	10.0	8.5	11.1	12.7			
11	Wed.	63	62	7	3	0	3v	0	1v	0	45	33	18	18	10.5	9.0	11.1	11.1			
12	Thurs.	63	63	7	4	0	3v	0	1v	0	44	35	18	19	10.5	9.0	11.1	12.7			
13	Fri.	62	63	7	4	0	3v	0	1v	0	43	33	17	19	11.0	10.0	11.1	14.3	10.46	11.01	7.27
14	Sat.	62	62	7	3	0	3v	0	1v	0	46	35	18	18	11.0	9.0	9.5	12.7			
15	Sun.	62	62								46	36	17								
16	Mon.	62	62	6	3	0	3v	0	1v	0	43	34	17	18	11.0	9.0	11.1	12.7			
17	Tues.	62	61	7	3	0	3v	0	1v	0	43	32	18	17	10.0	8.5	7.9	11.1			
18	Wed.	61	61	7	3	0	3v	0	1v	0	42	32	17	17	11.0	9.0	11.1	12.7			
19	Thurs.	61	62	6	3	0	3v	0	1v	0	41	33	17	17	10.0	7.0	11.1	11.1			
20	Fri.	62	63	6	3	0	3v	0	1v	0	40	32	16	17	10.5	8.5	7.9	9.5	9.06	9.03	7.80
21	Sat.	64	62	6	3	0	3v	0	1v	0	41	33	17	17	10.0	8.0	7.9	11.1			
22	Sun.	63	62								40	33	17								
23	Mon.	61	61	7	3	0	3v	0	1v	0	41	32	17	16	9.0	7.5	9.5	11.1			
24	Tues.	61	61	7	4	0	3v	0	1v	0	40	33	17	17	11.0	9.5	7.9	11.1			
25	Wed.	61	61	7	4	0	3v	0	1v	0	40	32	17	17	10.0	8.5	7.9	12.7			
26	Thurs.	60	60	8	4	0	3v	0	1v	0	39	30	17	17	10.0	8.5	7.9	11.1	9.06	8.91	8.10
27	Fri.	60	59	7	3	0	3v	0	1v	0	40	32	17	17	10.5	9.0	7.9	11.1			
28	Sat.	59	59	8	4	0	3v	0	1v	0	40	30	17	17	11.0	9.0	7.9	9.5			
29	Sun.	58	59								40	33	17								
30	Mon.	57	57	7	3	0	3v	0	1v	0	39	32	16	17	10.0	8.5	7.9	9.5			
Average.		61	61	7	3	0	3v	0	1v	0	42	32	17	17	10.3	8.7	10.1	12.0	9.35	9.36	7.59
October—1912																					
1	Tues.	54	56	7	3	0	3v	0	1v	0	40	29	17	17	9.0	8.5	7.9	7.9			
2	Wed.	56	55	7	3	0	2v	0	1v	0	38	32	17	17	9.0	8.0	6.3	7.9			
3	Thurs.	56	54	6	3	0	2v	0	1v	0	39	28	16	17	10.0	8.5	6.3	7.9	9.84	10.22	9.38
4	Fri.	55	54	6	3	0	2v	0	1v	0	38	32	16	17	10.0	8.5	7.9	7.9			
5	Sat.	55	53	7	3	0	2v	0	1v	0	38	30	16	17	10.0	9.0	7.9	7.9			
6	Sun.	56	54								37	31	17								
7	Mon.	56	54	6	3	0	2v	0	1v	0	36	28	17	17	10.0	8.5	7.9	7.9			
8	Tues.	56	54	7	3	0	2v	0	1v	0	33	28	16	17	9.0	7.5	6.3	7.9			
9	Wed.	55	54	6	3	0	2v	0	1v	0	33	28	16	17	9.5	8.5	6.3	7.9	10.20	10.30	9.60
10	Thurs.	56	54	6	3	0	2v	0	1v	0	36	31	16	17	10.0	8.5	7.9	9.5			
11	Fri.	56	53	5	3	0	2v	0	1v	0	36	28	17	17	10.0	8.0	7.9	9.5			
12	Sat.	56	54	3	5	0	2v	0	1v	0	38	29	17		9.0	8.0	7.9	9.5			
13	Sun.	55	54								38	28	17								
14	Mon.	55	54	4	7	0	2v	0	1v	0	38	28	17	17	9.0	8.0	8.3	9.5			
15	Tues.	55	54	3	6	0	2v	0	1v	0	38	32	17	17	10.0	8.0	11.1	9.5			
16	Wed.	54	52	3	6	0	2v	0	1v	0	37	29	17	17	10.0	8.0	11.1	9.5			
17	Thurs.	52	52	4	6	0	2v	0	1v	0	36	28	16	17	10.0	8.0	11.1	11.1			
18	Fri.	52	51	3	4	0	2v	0	1v	0	36	30	16	17	10.0	8.0	11.1	11.1	9.30	9.30	8.80
19	Sat.	52	51	4	6	0	2v	0	1v	0	37	29	17	16	10.0	8.0	11.1	11.1			
20	Sun.	52	51								37	32	17								
21	Mon.	51	50	3	6	0	2v	0	1v	0	37	33	18	17	10.0	8.0	11.1	11.1			
22	Tues.	50	51	4	6	0	2v	0	1v	0	37	32	17	17	10.0	8.5	7.9	9.5			
23	Wed.	51	50	5	7	0	2v	0	1v	0	38	34	18	17	10.0	8.5	11.1	11.1			
24	Thurs.	54	50	18	8	0	2v	0	1v	0	95	36	18	18	8.5	8.5	9.5	11.1			
25	Fri.	51	50	12	7	0	2v	0	1v	0	92	38	18	18	7.0	7.0	11.1	11.1			
26	Sat.	52	52	12	8	0	2v	0	1v	0	95	50	18	18	6.5	6.5	11.1	11.1	9.70	10.10	9.10
27	Sun.	51	51								90	60	18								
28	Mon.	51	50	12	8	0	3v	0	1v	0	80	48	18	20	7.5	7.5	11.1	11.1			
29	Tues.	50	48	6	11	0	3v	0	1v	0	75	50	19	26	8.5	8.0	11.1	12.7			
30	Wed.	50	48	7	11	0	3v	0	1v	0	85	60	30	29	9.0	8.5	11.1	12.7			
31	Thurs.	49	48	4	12	0	3v	0	1v	0	75	62	21	29	8.5	7.5	9.5	12.7			
Average.		53	52	9	7	0	2v	0	1v	0	50	36	18	18	9.3	8.1	9.2	9.9	9.76	9.98	9.22

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CARBON DIOXIDE.			IRON.		BACTERIA PER CUBIC CENTIMETER.									PRESUMPTIVE TEST B. COLI.						COAGULANT.		
							FILTER EFFLUENTS.							RIVER.			FILTERED.					
														Gas.			Gas.					
River.	Settled.	Filtered.	River.	Filtered.	River.	Aerator.	1	2	3	4	5	6	Mixed.	1c.c.	5c.c.	L. L. Agar.	1c.c.	5c.c.	L. L. Agar.	GRAINS PER GALLON.	Day.	Date.
																				.15	Sun.	1
2.5	2.5	2.5			1800	380	4	4	9	9	6	2	9	—	+	—	—	—	—	.25	Mon.	2
2.5	2.5	2.5			L	L	6	7	5	8	5	6	7	—	+	—	—	—	—	.28	Tues.	3
2.5	2.5	2.5			310	122	7	8	6	7	6		7	—	+	—	—	—	—	.27	Wed.	4
2.5	2.5	2.5	.30	.20	220	60	8	6	7	6	4		6	—	+	—	—	—	—	.27	Thurs.	5
2.5	2.5	2.5			190	92	6	7	6	9	6		6	—	+	—	—	—	—	.27	Fri.	6
																				.32	Sat.	7
																				.30	Sun.	8
2.5	2.5	2.5			1140	180	4	4	6	5	8		4	—	—	—	—	—	—	.28	Mon.	9
2.0	2.0	2.5	.30	.10	390	220	4	5	3	6	5		6	—	—	—	—	—	—	.30	Tues.	10
2.5	2.5	3.0			570	270	5	8	9	9	19		7	—	+	1	—	—	—	.24	Wed.	11
2.5	2.5	2.5			440	230	12	8	8	6	8	30	7	—	+	—	—	—	—	.31	Thurs.	12
2.5	2.5	2.5			490	280	7	6	3	7	7	11	3	—	—	—	—	—	—	.30	Fri.	13
2.0	2.0	3.0			310	170	4	3	3	7	3	10	5	—	+	—	—	—	—	.35	Sat.	14
																				.35	Sun.	15
2.5	2.0	2.5			580	190	3	5	7	6	4	7	4	—	—	—	—	—	—	.28	Mon.	16
2.5	2.5	2.5	.50	.20	890	210	7	8	4	6	3	6	4	—	+	—	—	—	—	.29	Tues.	17
2.5	2.5	2.5			470	230	5	4	5	4	2	8	3	—	—	—	—	—	—	.27	Wed.	18
2.0	2.0	3.0			560	350	4	3	5	9	7	5	4	—	+	1	—	—	—	.27	Thurs.	19
1.5	2.0	3.0			490	200	4	4	7	3	4	8	3	—	—	—	—	—	—	.23	Fri.	20
2.0	2.0	2.5			460	380	5	3	5	6	4	7	4	—	+	—	—	—	—	.22	Sat.	21
																				.23	Sun.	22
2.5	2.5	2.5			390	170		6	4	5	3	6	4	—	+	—	—	—	—	.28	Mon.	23
2.0	2.0	2.5	.50	.30	260	98	11	5	4	4	12	5	5	—	+	—	—	—	—	.21	Tues.	24
1.5	3.0	3.0			210	110	9	4	5	7		5	6	—	+	—	—	—	—	.20	Wed.	25
2.0	2.5	3.0			440	160	6	5	4	7		4	3	—	+	—	—	—	—	.20	Thurs.	26
2.5	2.5	3.0			310	250	4	5	6	5		7	4	—	+	—	—	—	—	.20	Fri.	27
2.5	2.5	3.0			260	110	5	6	8	3		9	6	—	+	—	—	—	—	.20	Sat.	28
																				.24	Sun.	29
2.5	2.5	3.0			280	230	5	7	4	4	7	2	2	—	+	1	—	—	—	.21	Mon.	30
2.2	2.4	2.7	.40	.20	497	353	13	6	6	6	6	8	5	—	+	—	—	—	—	.26	Average.	

September 1912

October—1912

2.0	3.0	2.0			160	230	12	4	2	3	15	5	3	—	—	—	—	—	—	.22	Tues.	1
2.0	2.5	3.0	.35	.20	230	120	4	3	5	3	11	5	5	—	+	—	—	—	—	.20	Wed.	2
2.0	2.0	3.0			190	150	10	3	11	5	14	6	5	—	+	—	—	—	—	.20	Thurs.	3
2.0	2.5	3.0			210	120	3	6	3		12	6	8	—	+	—	—	—	—	.16	Fri.	4
1.5	2.0	3.0			170	150	6	3	8		7	6	6	—	+	—	—	—	—	.13	Sat.	5
																				.18	Sun.	6
2.0	2.0	3.0			150	90	4		8	3	8	5	6	+	+	—	—	—	—	.18	Mon.	7
2.5	3.0	3.0	.40	.20	120	70	5		4	4	4	6	3	—	+	—	—	—	—	.11	Tues.	8
2.0	2.0	3.0			140	80	4		3	4	3	5	4	—	+	—	—	—	—	.09	Wed.	9
2.0	2.0	2.5			160	100	5		6	6	4	5	5	—	+	—	—	—	—	.15	Thurs.	10
2.5	2.5	2.5			180	120	3		7	4	6	6	6	—	+	—	—	—	—	.14	Fri.	11
2.5	2.0	2.5			170	130	5	8	3	3	4	5	5	—	+	—	—	—	—	.19	Sat.	12
																				.16	Sun.	13
2.5	2.0	2.5			150	120	8	10	6	4	7	5	6	—	+	—	—	—	—	.16	Mon.	14
2.5	2.5	2.5	.40	.20	160	220	10	7	8	6	7	6	7	—	+	—	—	—	—	.16	Tues.	15
2.5	2.5	2.5			180	250	3	13	7	4	3	2	5	—	+	—	—	—	—	.16	Wed.	16
2.5	2.0	2.5			220	270	6	14	8	8	10	12	7	—	+	—	—	—	—	.17	Thurs.	17
2.5	2.5	2.5			170	212	8	9	6	10	7	6	8	—	+	—	—	—	—	.00	Fri.	18
2.5	2.5	2.5			210	230	7	6	5	8	7	5	7	—	+	—	—	—	—	.16	Sat.	19
																				.15	Sun.	20
2.0	2.5	2.5			178	232	6	6	7	5	6	3	6	—	+	—	—	—	—	.15	Mon.	21
2.0	2.0	2.5			280	350	3	4	5	6	8	4	5	—	—	—	—	—	—	.15	Tues.	22
2.5	2.0	2.5	.40	.20	190	400	6	8	7	4	7	5	8	—	—	—	—	—	—	.27	Wed.	23
2.5	4.0	2.5			1600	930	9	11	4	7	6	8	9	+	+	—	—	—	—	.00	Thurs.	24
2.5	2.5	4.0			4000	1200	7	9	8	5	3	7	7	+	+	—	—	—	—	.53	Fri.	25
2.5	2.5	3.0			2000	2500	11	17	9	16	18	12	9	+	+	—	—	—	—	.48	Sat.	26
																				.58	Sun.	27
2.5	2.5	3.0			1280	1570	9	11	8	8	10	8	7	—	—	—	—	—	—	.76	Mon.	28
2.5	3.0	3.0			1400	1500	6	5	4	5	7	6	6	—	+	—	—	—	—	.80	Tues.	29
2.5	2.5	2.5			820	1340	4	9	7	4	5	6	8	+	+	—	—	—	—	1.10	Wed.	30
2.5	4.0	2.5			1200	1100	3	6	3	4	5		5	+	+	—	—	—	—	.85	Thurs.	31
2.3	2.5	2.7	.39	.20	589	503	6	8	6	6	8	6	6	—	+	—	—	—	—	.27	Average.	

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November 1912		TEMPERATURE F.		TURBIDITY.			ODOR.				COLOR.				ALKALINITY.		HARDNESS.		OXYGEN DISSOLVED.		
							Hot.		Cold.												
Date.	Day.	River.	Filtered.	River.	Settled.	Filtered.	River.	Filt'd.	River.	Filt'd.	River.	Settled.	Filtered.	City.	River.	Filtered.	River.	Filtered.	Settled.	Aerator.	Filtered.
1	Fri.	49	48	3	11	0	3v	0	1v	0	67	37	18	26	10.0	4.0	11.1	12.7	9.5	9.8	9.3
2	Sat.	47	47	3	11	0	3v	0	1v	0	59	42	17	19	10.0	4.0	11.1	12.7			
3	Sun.	46	46								67	42	19								
4	Mon.	44	44	7	12	0	3v	0	1v	0	63	37	19	18	9.5	4.0	11.1	11.1			
5	Tues.	43	43	6	9	0	3v	0	1v	0	60	37	18	19	8.5	5.0	11.9	12.7			
6	Wed.	42	42	5	11	0	3v	0	1v	0	60	42	19	18	9.0	4.5	11.9	12.7			
7	Thurs.	43	42	4	11	0	3v	0	1v	0	60	41	20	27	9.0	5.0	11.9	12.7			
8	Fri.	45	43	13	11	0	3v	0	1v	0	67	37	22	25	8.5	5.0	10.3	12.7			
9	Sat.	46	44	8	11	0	3v	0	1v	0	67	42	22	26	8.5	5.0	11.1	12.7	11.5	11.4	11.0
10	Sun.	44	44	3	11	0					67	37	21		8.0						
11	Mon.	43	44	3	11	0	3v	0	1v	0	63	34	20	23	7.5	5.0	11.1	12.7			
12	Tues.	43	43	4	11	0	3v	0	1v	0	63	37	20	20	7.5	4.0	11.9	12.7			
13	Wed.	44	43	3	11	0	3v	0	1v	0	67	36	20	20	7.5	3.5	11.9	12.7			
14	Thurs.	44	43	2	12	0	3v	0	1v	0	62	33	22	20	7.5	3.5	11.9	12.7			
15	Fri.	45	43	8	11	0	3v	0	1v	0	60	28	19	19	7.5	3.5	11.1	12.7	11.6	11.2	10.9
16	Sat.	44	43	6	12	0	3v	0	1v	0	58	27	17	20	7.5	3.0	11.1	12.7			
17	Sun.	43	42								56	27	16								
18	Mon.	41	41	2	11	0	3v	0	1v	0	56	26	15	18	7.0	3.0	11.1	12.7			
19	Tues.	40	41	2	11	0	3v	0	1v	0	53	26	13	17	7.0	3.0	11.1	12.7			
20	Wed.	39	40	2	11	0	3v	0	1v	0	50	25	13	15	7.5	3.5	11.9	12.7			
21	Thurs.	39	39	1	11	0	3v	0	1v	0	48	26	15	16	7.5	3.5	11.9	12.7			
22	Fri.	40	39	1	9	0	3v	0	1v	0	50	26	16	16	7.5	3.5	11.9	12.7	12.8	12.6	11.8
23	Sat.	40	39	1	9	0	3v	0	1v	0	47	26	16	16	7.5	4.0	11.9	12.7			
24	Sun.	40	39								47	28	16								
25	Mon.	41	39	18	9	0	3v	0	1v	0	63	27	17	17	7.0	4.0	11.1	12.7			
26	Tues.	40	39	12	10	0	3v	0	1v	0	58	27	17	17	6.5	3.0	11.1	12.7			
27	Wed.	39	39	8	11	0	3v	0	1v	0	56	28	17	19	6.5	3.5	11.1	12.7			
28	Thurs.	38	39								57	28	17								
29	Fri.	37	38	3	11	0	3v	0	1v	0	52	25	17	17	7.0	3.5	11.1	12.7	13.1	12.5	11.9
30	Sat.	37	37	3	11	0	3v	0	1v	0	48	23	16	17	7.0	3.5	11.1	11.9			
Average.		42	42	5	11	0	3v	0	1v	0	58	32	18	19	7.8	3.9	11.4	12.6	11.7	11.5	11.0

December—1912																					
1	Sun.	36	37								43	24	16								
2	Mon.	36	36	3	11	0	2v	0	1v	0	47	24	16	17	7.0	4.0	11.1	12.7			
3	Tues.	39	36	18	11	0	3v	0	1v	0	53	24	17	16	6.5	3.5	11.1	12.7			
4	Wed.	39	36	24	14	0	3v	0	1v	0	67	26	18	16	6.5	3.5	11.1	12.7			
5	Thurs.	39	38	14	18	0	3v	0	1v	0	63	26	16	16	6.5	3.0	11.1	12.7			
6	Fri.	39	38	12	17	0	3v	0	1v	0	58	23	16	16	6.5	3.0	11.1	12.7	12.5	12.6	11.5
7	Sat.	41	39	14	17	0	3v	0	1v	0	63	22	15	14	6.0	3.0	11.1	12.7			
8	Sun.	39	39								58	23	15								
9	Mon.	38	39	3	12	0	3v	0	1v	0	54	22	14	12	6.0	3.0	11.1	12.7			
10	Tues.	37	38	2	14	0	3v	0	1v	0	53	22	14	12	6.5	2.5	11.1	12.7			
11	Wed.	36	37	1	11	0	3v	0	1v	0	52	21	14	12	6.5	2.0	11.1	12.7			
12	Thurs.	35	36	0	11	0	3v	0	1v	0	48	21	12	11	6.5	2.0	11.1	12.7			
13	Fri.	35	35	0	10	0	2v	0	1v	0	43	21	13	12	6.5	2.5	11.1	12.7			
14	Sat.	35	34	0	9	0	2v	0	1v	0	43	21	13	13	6.5	3.0	11.1	12.7	13.4	12.2	11.5
15	Sun.	35	35								43	22	14								
16	Mon.	35	34	0	10	0	2v	0	1v	0	47	22	17	12	6.5	2.5	11.1	12.7			
17	Tues.	34	34	2	10	0	2v	0	1v	0	47	21	16	13	6.5	3.0	11.1	12.7			
18	Wed.	34	34	2	9	0	2v	0	1v	0	46	21	14	14	6.5	3.5	11.1	12.7			
19	Thurs.	35	34	1	9	0	2v	0	1v	0	44	21	15	13	6.5	3.5	11.1	12.7			
20	Fri.	36	35	12	11	0	2v	0	1v	0	47	23	16	14	6.5	3.5	11.1	12.7	14.2	13.8	11.6
21	Sat.	35	34	10	11	0	2v	0	1v	0	43	22	15	14	6.0	4.0	11.1	12.7			
22	Sun.	35	34								42	21	15								
23	Mon.	35	34	3	10	0	2v	0	1v	0	38	21	14	15	6.0	3.5	11.1	12.7			
24	Tues.	35	34	2	9	0	2v	0	1v	0	37	22	15	15	6.5	3.5	11.1	12.7			
25	Wed.	34	34								35	21	15								
26	Thurs.	35	34	1	9	0	2v	0	1v	0	35	21	15	16	7.0	4.0	11.1	12.7			
27	Fri.	35	34	1	9	0	2v	0	1v	0	35	22	16	16	7.0	4.0	11.1	12.7			
28	Sat.	36	35	8	9	0	2v	0	1v	0	35	22	16	16	6.5	4.5	11.1	12.7	13.8	13.3	12.3
29	Sun.	34	34								34	22	16	16							
30	Mon.	34	34	3	8	0	2v	0	1v	0	34	22	16	16	6.5	4.5	11.1	12.7			
31	Tues.	34	34	22	8	0	2v	0	1v	0	37	26	16	16	6.0	4.5	11.1	12.7			
Average.		36	35	6	11	0	2v	0	1v	0	46	22	15	14	6.5	3.3	11.1	12.7	13.5	13.0	11.7

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CARBON DIOXIDE.			IRON.		BACTERIA PER CUBIC CENTIMETER.									PRESUMPTIVE TEST B. COLI.						COAGULANT.	November 1912	
							FILTER EFFLUENTS.							RIVER.			FILTERED.					
														Gas.			Gas.					
River.	Settled.	Filtered.	River.	Filtered.	River.	Aerator.	1	2	3	4	5	6	Mixed.	1c.c.	5c.c.	L.L. Agar.	1c.c.	5c.c.	L.L. Agar.	GRAINS PER GALLON.	Day.	Date.
2.5	4.0	2.5	.20	.20	1200	1100	7	7	11	6	5		7	+	+	—	—	—	—	.72	Fri.	1
2.0	2.5	2.5			680	620	3	5	7	6	6		6	—	+	—	—	—	—	.56	Sat.	2
																				.74	Sun.	3
2.0	2.0	2.5			830	1060		6	4	5	7	4	6	—	+	—	—	—	—	.69	Mon.	4
2.0	2.5	2.5	.20	.20	1200	1400		10	9	5	5	6	8	—	—	—	—	—	—	.56	Tues.	5
2.5	2.5	2.0			850	1300		7	8	10	6	40	13	—	—	—	—	—	—	.58	Wed.	6
2.5	2.5	2.0			1200	1100		8	7	12	10	41	14	—	—	—	—	—	—	.64	Thurs.	7
2.0	2.0	2.5			2700	1100		13	12	12	9	58	19	+	+	—	—	—	—	.70	Fri.	8
2.5	2.0	2.5			1640	1450		15	18	13	6	56	16	—	+	—	—	—	—	.65	Sat.	9
																				.72	Sun.	10
2.5	2.5	2.0			800	1700	97	17	20	25		47	28	—	+	—	—	—	—	.60	Mon.	11
2.0	2.5	2.0			500	980	130	6	6	9		48	22	—	+	—	—	—	—	.69	Tues.	12
2.5	2.5	2.5	.20	.30	400	800	90	6	13	7	21	16	19	—	+	—	—	—	—	.76	Wed.	13
2.5	2.0	2.5			520	820	L	12	6	7	17	37	20	—	+	—	—	—	—	.63	Thurs.	14
2.5	3.0	2.5			680	760	52	9	5		19	34	21	—	+	—	—	—	—	.71	Fri.	15
2.5	2.5	2.5			550	740	29	4	3		13	15	16	—	+	—	—	—	—	.63	Sat.	16
																				.63	Sun.	17
2.5	2.5	2.5			420	580	12	5	5		8	8	8	—	—	—	—	—	—	.52	Mon.	18
2.5	2.0	2.0	.20	.20	230	400	16	9	4	42	15	12	12	—	—	—	—	—	—	.49	Tues.	19
2.5	2.0	2.0			240	310	18	3	4	26	12	16	12	—	—	—	—	—	—	.42	Wed.	20
2.0	2.0	2.0			310	290	22	4		88	18	10	24	—	—	—	—	—	—	.43	Thurs.	21
2.5	2.0	2.0			390	300	32	4		110	25	12	30	—	+	—	—	—	—	.37	Fri.	22
2.0	2.0	2.0			220	300	15	2		72	13	7	21	—	+	—	—	—	—	.36	Sat.	23
																				.40	Sun.	24
2.5	2.0	2.0			5800	710	10		8	36	6	6	14	+	+	—	—	—	—	.64	Mon.	25
2.0	2.0	2.0	.40	.20	2100	1290	25	14	20	76	28	15	38	—	+	—	—	+*	—	.56	Tues.	26
2.0	2.0	2.0			640	1040	35	10	35	58	20	14	36	—	+	—	—	—	—	.49	Wed.	27
																				.59	Thurs.	28
2.0	2.5	2.5			320	540	24	26	45	31	28		30	—	+	—	—	—	—	.45	Fri.	29
2.0	2.0	2.5			240	300	10	10	22	30	10		19	+	+	—	—	—	—	.40	Sat.	30
2.3	2.3	2.3	.24	.22	987	839	35	9	12	31	13	24	18	—	+	—	—	—	—	.58	Average.	

* Under B. Coli. positive on confirmation test.

December—1912

2.5	2.5	2.5			230	500	12	18	27	28	15		21	—	+	—	—	—	—	.33	Sun.	1
2.5	2.5	2.5	.40	.20	1750	300	9	13	19	11	5		17	+	+	—	—	—	—	.50	Mon.	2
2.5	2.5	2.5			1500	790	17	25	46	32	24	18	35	+	+	—	—	—	—	.53	Tues.	3
2.0	2.5	2.0			830	1000		25	41	21	22	30	L	—	+	2	—	—	—	.78	Wed.	4
2.5	2.0	2.5			760	940		13	11	10	25	36	25	—	+	—	—	—	—	.66	Thurs.	5
2.5	2.5	2.5			780	690		12	15	19	18	40	27	—	+	—	—	—	—	.66	Fri.	6
																				.66	Sat.	7
																				.61	Sun.	8
2.0	2.5	2.5			400	660		14	12	12	17	43	16	—	+	—	—	—	—	.53	Mon.	9
2.0	2.0	2.0	.20	.10	250	320		10	8	10	16	41	15	—	+	—	—	—	—	.48	Tues.	10
2.0	2.0	2.0			230	400		4	10	8	6	24	13	—	—	—	—	—	—	.46	Wed.	11
2.0	2.0	2.0			260	170		9	4	6	4	14	11	—	+	—	—	—	—	.40	Thurs.	12
2.0	2.0	2.0			250	160		9	10	9	4	23	12	—	+	—	—	—	—	.33	Fri.	13
2.0	2.0	2.0			630	150		8	12		15	14	12	—	—	—	—	—	—	.34	Sat.	14
																				.33	Sun.	15
2.0	2.0	2.0			400	280		13	10	75		30	38	—	—	—	—	—	—	.40	Mon.	16
2.0	2.0	1.5	.20	.15	490	220		9	12	33		17	17	—	—	—	—	—	—	.37	Tues.	17
2.0	2.0	2.0			400	420		13	16	56		30	25	—	—	—	—	—	—	.27	Wed.	18
2.0	2.5	2.0			320	230		10	10	36	104	17	35	—	—	—	—	—	—	.37	Thurs.	19
2.0	2.0	2.0			1650	630			5	30	44	10	21	—	+	—	—	—	—	.32	Fri.	20
2.0	2.0	2.0			620	350			6	42	33	15	32	—	+	—	—	—	—	.24	Sat.	21
																				.28	Sun.	22
2.0	2.0	2.0			210	240		8	6	18	27	12	16	—	+	—	—	—	—	.24	Mon.	23
2.0	2.0	2.0	.20	.20	170	340		13		14	19	12	15	—	+	—	—	—	—	.25	Tues.	24
																				.22	Wed.	25
2.0	2.0	2.0			180	230		16	15	14	22	14	17	—	—	—	—	—	—	.23	Thurs.	26
2.0	2.0	2.0			370	420		15	17	18	21	13	19	—	+	—	—	—	—	.23	Fri.	27
2.0	2.0	2.0			920	320		14	21	20	16		18	—	+	—	—	—	—	.24	Sat.	28
																				.22	Sun.	29
2.0	2.0	2.0			280	550		20	28	18	20	38	26	—	+	—	—	—	—	.17	Mon.	30
2.0	2.0	2.0	.40	.20	1930	640		22	16	15	26	45	21	—	+	—	—	—	—	.22	Tues.	31
2.3	2.1	2.0	.28	.17	632	438	13	14	16	23	24	24	21	—	+	—	—	—	—	.38	Average.	

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APPENDIX XXIV.

MASSACHUSETTS STATE BOARD OF HEALTH.

WATER ANALYSIS OF WESTFIELD LITTLE RIVER, Springfield, 1912. (Parts in 100,000.)

BORDEN BROOK RESERVOIR—Inlet.

NO.	DATE.		APPEARANCE.			ODOR.		RESIDUE.			AMMONIA.					Chlorine.	NITROGEN.		Oxygen Consumed.	Hardness.	Iron.
	Collection.	Examination.	Turbidity.	Sediment.	Color.	Cold.	Hot.	Total.	Volatile.	Fixed.	Free.	Albuminoid. Total	Albuminoid. Solution.	Albuminoid. Susp.			As Nitrates.	As Nitrites.			
97461	Jan. 6	Jan. 8	V. Slt.	V. Slt.	.69	F. Veg.	F. Veg. unpl.	3.50	1.60	1.90	.0118	.0274	.0236	.0088	.18	.0050	.0001	.70	1.3	.0600
98023	Feb. 13	Feb. 14	None	V. Slt.	.70	V. F. Veg.	V. F. Veg.	5.50	2.55	2.95	.0086	.0134	.0118	.0016	.14	.0090	.0000	.67	1.3	.0120
98447	Mar. 7	Mar. 8	None	V. Slt.	.80	V. F. Veg.	F. Veg.	5.05	2.05	3.00	.0080	.0152	.0142	.0010	.18	.0040	.0000	1.08	1.3	.0100
98959	April 3	April 4	None	V. Slt.	.42	Dis. Veg.	Dis. Veg.	2.80	1.20	1.60	.0026	.0128	.0102	.0026	.08	.0000	.0000	.57	0.5	.0060
99527	May 8	May 9	None	Slight	.75	Dis. Veg.	Dec. Veg.	4.10	2.00	2.10	.0040	.0204	.0184	.0020	.07	.0000	.0000	.86	0.8	.0080
100108	June 6	June 7	None	V. Slt.	1.58	F. Veg.	Dis. Veg.	4.30	1.90	2.40	.0044	.0268	.0236	.0032	.07	.0010	.0000	1.44	1.4	.0350
100813	July 5	July 6	Slight	Cons.	.27	Dis. Veg.	Dis. Vg. unpl.	6.05	1.50	4.55	.0168	.0220	.0172	.0048	.25	.0020	.0004	.36	2.7	.0240
101506	Aug. 6	Aug. 7	V. Slt.	V. Slt.	.30	Dis. Veg.	Dec. Veg.	5.90	1.95	3.95	.0046	.0204	.0180	.0024	.22	.0000	.0003	.40	2.9	.0120
102347	Sept. 4	Sept. 6	V. Slt.	Slight	.93	Dis. Veg.	Dec. Veg.	6.80	3.20	3.60	.0040	.0848	.0802	.0046	.10	.0010	.0001	1.42	2.3	.0180
103247	Oct. 9	Oct. 14	Slight	Slight	.35	V. F. Veg.	V. F. Veg.	4.95	1.55	3.40	.0050	.0156	.0144	.0012	.20	.0080	.0002	.52	2.5	.0700
103994	Nov. 12	Nov. 13	None	None	1.40	Dis. Veg.	Dis. Veg.	6.10	3.60	2.50	.0060	.0308	.0248	.0060	.19	.0010	.0000	1.74	1.7	.0180
104569	Dec. 4	Dec. 5	None	V. Slt.	.60	F. Veg.	Dis. Veg.	4.20	1.75	2.45	.0030	.0176	.0150	.0026	.14	.0000	.0000	.92	1.3	.0040

BORDEN BROOK RESERVOIR—Surface.

97462	Jan. 6	Jan. 8	V. Slt.	Slight	.70	F. Veg.	F. Veg.	4.05	1.75	2.30	.0110	.0334	.0262	.0072	.19	.0030	.0001	.68	1.3	.0500
98024	Feb. 13	Feb. 14	V. Slt.	Cons.	.62	V. F. Veg.	F. Veg.	4.20	1.85	2.35	.0284	.0360	.0296	.0064	.14	.0020	.0000	.74	1.3	.0600
98448	Mar. 7	Mar. 8	V. Slt.	Slight	*.65	F. Veg.	Dis. Veg.	4.00	1.90	2.10	.0122	.0224	.0174	.0050	.13	.0030	.0000	.70	0.8	.0450
98960	April 3	April 4	V. Slt.	V. Slt.	.50	Dis. Veg.	Dis. Veg.	3.30	1.45	1.85	.0056	.0142	.0120	.0022	.11	.0030	.0000	.62	0.8	.0350
99528	May 8	May 9	V. Slt.	V. Slt.	.45	Dis. Veg.	Dec. Veg.	3.30	1.30	2.00	.0076	.0208	.0168	.0040	.11	.0050	.0001	.53	0.8	.0500
100109	June 6	June 7	V. Slt.	V. Slt.	.45	F. Veg.	Dis. Veg.	3.20	1.35	1.85	.0026	.0144	.0120	.0024	.09	.0010	.0001	.55	0.6	.0280
100814	July 5	July 6	V. Slt.	Slight	.40	F. Veg.	Dis. Veg.	3.40	1.55	1.85	.0050	.0182	.0168	.0014	.13	.0020	.0001	.50	1.3	.0320
101507	Aug. 6	Aug. 7	V. Slt.	Slight	.35	F. Veg.	Dis. Veg.	4.00	1.55	2.45	.0028	.0274	.0226	.0048	.13	.0010	.0000	.47	1.1	.0430
102348	Sept. 4	Sept. 6	Slight	Cons.	.36	F. Veg.	Dis. Veg.	3.50	1.40	2.10	.0102	.0218	.0176	.0042	.12	.0010	.0000	.48	0.8	.0550
103248	Oct. 9	Oct. 14	Slight	Slight	.37	V. F. Veg.	V. F. Veg.	3.35	1.35	2.00	.0092	.0192	.0162	.0030	.13	.0000	.0002	.45	0.8	.0700
103995	Nov. 12	Nov. 13	None	V. Slt.	.52	V. F. Veg.	F. Veg. unpl.	3.90	1.50	2.40	.0152	.0208	.0192	.0016	.14	.0010	.0000	.58	1.3	.0800
104570	Dec. 4	Dec. 5	V. Slt.	V. Slt.	.54	F. Veg.	D.Vg. F.unpl.	3.80	1.70	2.10	.0172	.0262	.0194	.0068	.13	.0000	.0001	.61	1.3	.0800

*Turbid.

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MASSACHUSETTS STATE BOARD OF HEALTH.

WATER ANALYSIS OF WESTFIELD LITTLE RIVER, Springfield, 1912. (Parts in 100,000.)

BORDEN BROOK RESERVOIR—Bottom.

NO.	DATE.		APPEARANCE.		Color.	ODOR.		RESIDUE.			AMMONIA.				Chlorine.	NITROGEN.		Oxygen Consumed.	Hardness.	Iron.
	Collection.	Examination.	Turbidity.	Sediment.		Cold.	Hot.	Total.	Volatile.	Fixed.	Free.	Albuminoid. Total	Albuminoid. Solution.	Albuminoid. Susp.		As Nitrates.	As Nitrites.			
97463	Jan. 6	Jan. 8	None	None	.49	F. Veg.	F. Veg.	2.85	1.25	1.60	.0016	.0130	.0108	.0022	.11	.0050	.0001	.58	1.3	.0120
98025	Feb. 13	Feb. 14	V. Slt.	Slight	.70	V. F. Veg.	F. Veg.	4.50	2.55	1.95	.0268	.0400	.0300	.0100	.16	.0080	.0000	.73	1.3	....
98449	Mar. 7	Mar. 8	V. Slt.	V. Slt.	.60	F. Veg.	Dis. Veg.	4.55	1.90	2.65	.0120	.0202	.0168	.0034	.13	.0040	.0000	.72	1.3	.0450
98961	Apr. 3	April 4	V. Slt.	V. Slt.	.52	Dis. Veg.	Dis. Veg.	3.55	1.60	1.95	.0056	.0160	.0144	.0016	.12	.0020	.0000	.64	1.3	.0350
99529	May 8	May 9	V. Slt.	V. Slt.	.47	F. Veg.	D.Vg. F.unpl.	3.20	1.55	1.65	.0060	.0166	.0132	.0034	.11	.0080	.0001	.53	0.8	.0500
100110	June 6	June 7	V. Slt.	V. Slt.	.46	V. F. Veg.	F. unpl.	3.45	1.50	1.95	.0036	.0156	.0112	.0044	.08	.0020	.0008	.54	1.0	.0260
100815	July 5	July 6	V. Slt.	V. Slt.	.48	F. Veg.	D.Vg. F.unpl.	3.85	1.10	2.75	.0092	.0140	.0134	.0006	.13	.0020	.0001	.51	1.1	.0420
101508	Aug. 6	Aug. 7	V. Slt.	V. Slt.	.37	Dis. Veg.	D.Vg. F.unpl.	3.45	1.40	2.05	.0058	.0172	.0162	.0010	.13	.0000	.0001	.49	1.1	.0430
102349	Sept. 4	Sept. 6	Slight	Slight	.35	F. Veg.	Dis. Veg.	2.65	1.05	1.60	.0064	.0176	.0164	.0012	.10	.0000	.0001	.47	1.0	.0600
103249	Oct. 9	Oct. 14	Slight	Slight	.35	V. F. Veg.	V. F. Veg.	3.15	1.05	2.10	.0112	.0196	.0156	.0040	.11	.0000	.0001	.45	0.8	.0400
103996	Nov. 12	Nov. 13	V. Slt.	V. Slt.	.50	F. Veg.	Dis. Veg.	3.60	1.60	2.00	.0168	.0222	.0188	.0034	.13	.0010	.0000	.64	1.3	.0700
104571	Dec. 4	Dec. 5	V. Slt.	V. Slt.	.60	F. Veg.	D.Vg. F.unpl.	4.00	1.35	2.65	.0164	.0202	.0196	.0006	.13	.0000	.0001	.61	1.3	.0800

BORDEN BROOK—At junction with Pebble Brook.

97459	Jan. 6	Jan. 8	None	V. Slt.	.22	F. Veg.	F. Veg. unpl.	2.80	1.05	1.75	.0020	.0090	.0082	.0008	.15	.0160	.0001	.25	1.3	.0200
98021	Feb. 13	Feb. 14	None	V. Slt.	.11	V. F. Veg.	V. F. Veg.	3.45	1.25	2.20	.0034	.0080	.0060	.0020	.15	.0130	.0000	.24	1.3	.0060
98445	Mar. 7	Mar. 8	V. Slt.	Cons.	.45	F. Veg.	Dis. Veg.	3.70	1.55	2.15	.0072	.0176	.0124	.0052	.14	.0070	.0000	.58	1.3	.0450
98957	April 3	April 4	Slight	Cons.	.43	V. F. Veg.	F. Veg.	3.25	1.10	2.15	.0056	.0164	.0140	.0024	.11	.0040	.0000	.57	0.8	.0600
99525	May 8	May 9	V. Slt.	V. Slt.	.36	F. Veg.	F. Veg. unpl.	2.90	1.15	1.75	.0044	.0104	....	....	.11	.0010	.0001	.45	0.8	.0400
100106	June 6	June 7	None	V. Slt.	.35	F. Veg.	F. Veg.	3.40	1.10	2.30	.0008	.0106	.0098	.0008	.11	.0060	.0001	.40	1.1	.0180
100812	July 5	July 6	V. Slt.	V. Slt.	.42	F. Veg.	D.Vg. F.unpl.	3.90	1.40	2.50	.0050	.0130	.0124	.0006	.12	.0020	.0000	.48	1.1	.0350
101504	Aug. 6	Aug. 7	V. Slt.	V. Slt.	.34	F. Veg.	Dis. Veg.	3.25	1.30	1.95	.0036	.0136	.0132	.0004	.13	.0050	.0001	.39	1.7	.0390
102345	Sept. 4	Sept. 6	None	V. Slt.	.19	V. F. Veg.	F. Veg.	4.10	1.70	2.40	.0018	.0084	.0072	.0012	.16	.0100	.0001	.28	1.8	.0120
103245	Oct. 9	Oct. 14	V. Slt.	Slight	.35	V. F. Veg.	V. F. Veg.	3.00	1.05	1.95	.0088	.0184	.0132	.0052	.12	.0000	.0001	.42	0.8	.0600
103992	Nov. 12	Nov. 13	None	V. Slt.	.15	V. F. Veg.	F. Veg.	3.60	1.40	2.20	.0020	.0072	.0070	.0002	.20	.0120	.0000	.32	1.7	.0060
104568	Dec. 4	Dec. 5	None	None	.16	V. F. Veg.	F. Veg.	3.45	1.00	2.45	.0012	.0082	.0064	.0018	.18	.0080	.0000	.32	1.3	.0040

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MASSACHUSETTS STATE BOARD OF HEALTH.

WATER ANALYSIS OF WESTFIELD LITTLE RIVER, Springfield, 1912. (Parts in 100,000.)

PEBBLE BROOK — At junction with Borden Brook.

NO.	DATE.		APPEARANCE.			ODOR.		RESIDUE.			AMMONIA.				Chlorine.	NITROGEN.		Oxygen Consumed.	Hardness.	Iron.
	Collection.	Examination.	Turbidity.	Sediment.	Color.	Cold.	Hot.	Total.	Volatile.	Fixed.	Free.	Albuminoid. Total	Solution.	Susp.		As Nitrates.	As Nitrites.			
97460	Jan. 6	Jan. 8	None	V. Slt.	.24	F. Veg.	Dis. Veg.	2.75	0.90	1.85	.0006	.0090	.0082	.0008	.14	.0050	.0001	.27	1.1	.0080
98022	Feb. 13	Feb. 14	None	V. Slt.	.05	V. F. Veg.	V. F. Veg.	3.25	1.00	2.25	.0022	.0060	.0042	.0018	.15	.0080	.0000	.11	1.3	.0060
98446	Mar. 7	Mar. 8	None	V. Slt.	.25	V. F. Veg.	F. Veg.	4.10	1.35	2.75	.0016	.0092	.0082	.0010	.12	.0100	.0000	.39	1.3	.0080
98958	Apr. 3	Apr. 4	Slight	Cons.	.45	F. Veg.	F. Veg. unpl.	3.15	1.25	1.90	.0058	.0152	.0126	.0026	.10	.0090	.0000	.56	0.8	.0450
99526	May 8	May 9	None	V. Slt.	.35	F. Veg.	Dis. Veg.	3.15	1.35	1.80	.0012	.0112	.0090	.0022	.09	.0010	.0000	.44	0.8	.0080
100107	June 6	June 7	None	V. Slt.	.50	V. F. Veg.	F. Veg.	3.00	1.30	1.70	.0018	.0150	.0138	.0012	.08	.0000	.0000	.58	1.1	.0100
101112	July 16	July 18	V. Slt.	Slight	.20	F. Veg.	F. Veg.	3.10	1.10	2.00	.0008	.0106	.0094	.0012	.15	.0000	.0000	.28	1.4	.0080
101505	Aug. 6	Aug. 7	V. Slt.	V. Slt.	.12	F. Veg.	Dis. Veg.	3.50	1.20	2.30	.0020	.0164	.0138	.0026	.16	.0010	.0001	.20	1.6	.0090
102346	Sept. 4	Sept. 6	V. Slt.	V. Slt.	.58	Dis. Veg.	Dec. Veg.	....	....	....	.0040	.0184	....	....	.14	.0000	.0001	.76	1.8	.0120
103246	Oct. 9	Oct. 14	V. Slt.	Slight	.15	V. F. Veg.	V. F. Veg.	3.65	1.00	2.65	.0016	.0088	.0078	.0010	.14	.0010	.0001	.22	1.7	.0080
103993	Nov. 12	Nov. 13	None	None	.55	F. Veg.	Dis. Veg.	3.35	1.40	1.95	.0030	.0170	.0164	.0006	.19	.0010	.0000	.81	1.7	.0100
104567	Dec. 4	Dec. 5	V. Slt.	V. Slt.	.50	F. Veg.	Dis. Veg.	4.10	1.30	2.80	.0064	.0188	.0144	.0044	.15	.0000	.0000	.59	1.3	.0200

AT TUNNEL—River Water.

97464	Jan. 6	Jan. 8	None	V. Slt.	.35	V. F. Veg.	F. Veg.	3.10	1.15	1.95	.0040	.0122	.0110	.0012	.13	.0050	.0002	.39	1.3	.0250
98026	Feb. 13	Feb. 14	V. Slt.	V. Slt.	.21	V. F. Veg.	F. Veg.	3.20	0.95	2.25	.0028	.0078	.0066	.0012	.16	.0200	.0000	.24	1.3	.0080
98450	Mar. 7	Mar. 8	V. Slt.	V. Slt.	.30	F. Veg.	Dis. Veg.	3.65	1.40	2.25	.0020	.0088	.0076	.0012	.12	.0080	.0000	.38	1.3	.0450
98962	April 3	April 4	Slight	Cons.	.32	F. Veg.	Dis. Veg.	2.80	1.00	1.80	.0024	.0164	.0088	.0076	.08	.0020	.0000	.47	0.8	.0850
99531	May 8	May 9	V. Slt.	V. Slt.	.20	F. Veg.	F. Veg.	3.05	1.20	1.85	.0006	.0092	.0088	.0004	.11	.0010	.0000	.36	0.8	.0150
100111	June 6	June 7	V. Slt.	V. Slt.	.45	F. unpl.	Dis. unpl.	3.55	1.65	1.90	.0020	.0124	.0110	.0014	.08	.0010	.0000	.53	1.3	.0150
100816	July 5	July 6	V. Slt.	Slight	.27	F. Veg.	Dis. Veg.	3.30	1.40	1.90	.0040	.0134	.0110	.0024	.13	.0020	.0000	.32	1.4	.0250
101509	Aug. 6	Aug. 7	V. Slt.	V. Slt.	.35	V. F. Veg.	F. Veg.	3.60	1.00	2.60	.0088	.0156	.0136	.0020	.13	.0000	.0001	.35	1.7	.0410
102350	Sept. 4	Sept. 6	Slight	Slight	.37	F. Veg.	Dis. Veg.	4.50	1.70	2.80	.0082	.0166	.0148	.0018	.12	.0010	.0001	.59	1.7	.0180
103250	Oct. 9	Oct. 14	V. Slt.	Slight	.25	V. F. Veg.	V. F. Veg.	3.20	1.15	2.05	.0040	.0132	.0120	.0012	.12	.0020	.0001	.42	1.3	.0200
103997	Nov. 12	Nov. 13	None	None	.53	V. F. Veg.	F. Veg.	3.85	1.55	2.30	.0082	.0190	.0174	.0016	.17	.0010	.0000	.78	1.3	.0100
104572	Dec. 4	Dec. 5	Decid'd	V. Slt.	*.50	F. Veg.	Dis. Veg.	4.00	1.35	2.65	.0056	.0140	.0120	.0020	.15	.0030	.0000	.54	1.3	.0400

*Turbid.

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MASSACHUSETTS STATE BOARD OF HEALTH.

WATER ANALYSIS OF WESTFIELD LITTLE RIVER, Springfield, 1912. (Parts in 100,000.)

WEST PARISH FILTERS—AERATOR—As Applied to Filters.

NO.	DATE.		APPEARANCE.			ODOR.		RESIDUE.			AMMONIA.				Chlorine.	NITROGEN.		Oxygen Consumed.	Hardness.	Iron.
	Collection.	Examination.	Turbidity.	Sediment.	Color.	Cold.	Hot.	Total.	Volatile.	Fixed.	Free.	Albuminoid. Total	Solution.	Susp.		As Nitrates.	As Nitrites.			
97465	Jan. 6	Jan. 8	V. Slt.	V. Slt.	.28	V. F. Veg.	F. Veg. unpl.	2.20	1.00	1.20	.0082	.0102	.0090	.0012	.12	.0050	.0001	.35	1.3	.0180
98027	Feb. 13	Feb. 14	V. Slt.	V. Slt.	.19	None	None	3.75	1.40	2.35	.0036	.0086	....	....	.13	.0080	.0000	.27	1.3	....
98451	Mar. 7	Mar. 8	Slight	V. Slt.	.22	V. F. unpl.	F. unpl.	4.65	1.95	2.70	.0032	.0084	.0078	.0006	.13	.0080	.0000	.41	1.3	.0120
98963	April 3	April 4	Slight	Slight	.20	F. Veg.	F. Veg.	2.75	1.00	1.75	.0014	.0096	.0070	.0026	.08	.0030	.0000	.35	0.8	.0850
99530	May 8	May 9	None	V. Slt.	.35	F. Veg.	Dis. Veg.	3.25	1.05	2.20	.0020	.0108	.0098	.0010	.10	.0010	.0001	.46	0.8	.0180
100112	June 6	June 7	Slight	Slight	.28	V. F. Veg.	F. Veg.	3.40	1.20	2.20	.0012	.0118	.0096	.0022	.09	.0010	.0002	.42	1.6	.0170
100817	July 5	July 6	V. Slt.	Slight	.23	F. Veg.	Dis. unpl.	4.00	1.65	2.35	.0086	.0116	.0100	.0016	.13	.0010	.0000	.28	1.6	.0250
101510	Aug. 6	Aug. 7	V. Slt.	V. Slt.	.22	V. F. Veg.	F. Veg.	3.30	1.05	2.25	.0084	.0152	.0126	.0026	.12	.0010	.0002	.30	1.6	.0810
102351	Sept. 4	Sept. 6	Slight	Slight	.27	F. Veg.	F. Veg.	4.45	1.50	2.95	.0086	.0148	.0130	.0018	.13	.0000	.0001	.38	1.6	.0220
103252	Oct. 9	Oct. 14	None	V. Slt.	.28	None	None	3.50	1.25	2.25	.0080	.0114	.0106	.0008	.12	.0000	.0000	.44	1.3	.0200
103998	Nov. 12	Nov. 13	V. Slt.	V. Slt.	.30	F. Veg.	F. Veg.	4.20	1 40	2.80	.0040	.0204	.0160	.0044	.16	.0000	.0000	.56	1.3	.0080
104573	Dec. 4	Dec. 5	Decid'd	V. Slt.	*.80	F. Veg.	F. Veg.	3.70	1.80	2.40	.0044	.0144	.0110	.0084	.14	.0010	.0000	.45	1.3	.0200

*Turbid.

WEST PARISH FILTERS—Effluent.

97466	Jan. 6	Jan. 8	None	None	.22	None	None	3.20	....	....	.0004	.0078	....	....	.14	.0050	.0000	..	1.3	.0120
98028	Feb. 13	Feb. 14	None	None	.15	None	None	3.40	....	....	.0020	.0064	....	....	.15	.0070	.0000	..	1.3	.0080
98452	Mar. 7	Mar. 8	None	V. Slt.	.19	None	V. F. unpl.	3.30	....	....	.0010	.0066	....	....	.13	.0080	.0000	..	1.3	.0120
98964	April 3	April 4	None	None	.11	None	None	2.30	....	....	.0012	.0044	....	....	.09	.0070	.0000	..	0.8	.0080
99532	May 8	May 9	None	None	.11	None	None	3.10	....	....	.0004	.0054	....	....	.12	.0080	.0000	..	1.3	.0080
100113	June 6	June 7	None	None	.20	None	None	3.40	....	....	.0004	.0068	....	....	.10	.0020	.0000	..	1.3	.0050
100818	July 5	July 6	None	None	.16	None	None	3.50	....	....	.0008	.0064	....	....	.14	.0180	.0000	..	1.6	.0080
101511	Aug. 6	Aug. 7	None	None	.20	V. F. Veg.	F. Veg.	3.60	....	....	.0018	.0080	....	....	.12	.0090	.0000	..	1.3	.0120
102352	Sept. 4	Sept. 6	None	None	.20	None	None	4.10	....	....	.0012	.0096	....	....	.15	.0040	.0000	..	1.6	.0120
103251	Oct. 9	Oct. 14	None	V. Slt.	.20	None	V. F. Veg.	2.45	1.00	1.45	.0024	.0106	.0096	.0010	.12	.0000	.0000	.31	1.3	.0850
103999	Nov. 12	Nov. 13	None	None	.24	None	V. F. unpl.	3.50	....	....	.0020	.0112	....	....	.17	.0010	.0000	..	1.7	.0180
104574	Dec. 4	Dec. 5	None	None	.20	None	None	3.00	....	....	.0006	.0092	....	....	.16	.0010	.0000	..	1.3	.0060

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MASSACHUSETTS STATE BOARD OF HEALTH.

WATER ANALYSIS OF LUDLOW CANAL, Springfield, 1912. (Parts in 100,000.)

NO.	DATE.		APPEARANCE.			ODOR.		RESIDUE.			AMMONIA.				Chlorine.	NITROGEN.		Oxygen Consumed.	Hardness.	Iron.
	Collection.	Examination.	Turbidity.	Sediment.	Color.	Cold.	Hot.	Total.	Volatile.	Fixed.	Free.	Albuminoid. Total	Solution.	Susp.		As Nitrates.	As Nitrites.			
97439	Jan. 4	Jan. 5	None	V. Slt.	.33	F. Veg.	Dis. Veg.	4.75	1.95	2.80	.0014	.0088	.0078	.0010	.24	.0030	.0000	.36	1.1	.0140
97961	Feb. 8	Feb. 12	V. Slt.	Slight	.25	V. F. Veg.	F. Veg.	4.65	2.05	2.60	.0028	.0112	.0088	.0024	.25	.0110	.0001	.24	1.6	.0200
98470	Mar. 7	Mar. 11	V. Slt.	V. Slt.	.25	F. Veg.	Dis. Veg.	4.45	1.35	3.10	.0018	.0110	.0068	.0022	.24	.0110	.0000	.35	1.3	.0280
98980	April 2	April 5	None	V. Slt.	.35	V. F. Veg.	F. Veg.	3.40	1.10	2.30	.0020	.0126	.0098	.0028	.19	.0010	.0000	.40	0.8	.0080
99522	May 8	May 9	V. Slt.	Slight	.52	F. Veg.	Dis. Veg.	4.75	1.70	3.05	.0020	.0222	.0192	.0030	.20	.0010	.0000	.65	0.8	.0150
100164	June 11	June 12	V. Slt.	V. Slt.	.53	Dis. Veg.	D.Veg.F.unp.	3.95	1.45	2.50	.0014	.0154	.0130	.0024	.19	.0000	.0000	.56	1.1	.0320
100789	July 2	July 5	Slight	Cons.	.29	F. Veg.	F. Veg.	3.60	1.05	2.55	.0060	.0180	.0136	.0044	.20	.0000	.0001	.38	1.3	.0320
101645	Aug. 12	Aug. 13	Slight	Slight	.24	Dis. Veg.	Dec.veg.e't'y	3.45	1.05	2.40	.0052	.0156	.0136	.0020	.21	.0000	.0000	.30	1.6	.0250
102363	Sept. 5	Sept. 9	V. Slt.	Slight	.22	Dis. Veg.	Dec. Veg.	4.90	1.85	3.05	.0046	.0146	.0128	.0018	.21	.0010	.0001	.35	1.3	.0080
103060	Oct. 2	Oct. 4	Slight	Slight	.30	F. Veg.	F. Veg.	3.55	1.20	2.35	.0034	.0140	.0126	.0014	.20	.0000	.0000	.28	1.3	.0350
103912	Nov. 5	Nov. 8	V. Slt.	None	.24	F. Veg.	Dis. Veg.	4.70	1.30	3.40	.0020	.0114	.0094	.0020	.27	.0090	.0002	.32	1.7	.0300
104615	Dec. 4	Dec. 6	V. Slt.	V. Slt.	.20	F. Veg.	Dis. Veg.	3.80	1.70	2.10	.0040	.0216	.0162	.0054	.21	.0010	.0000	.22	1.7	.0400

WATER ANALYSIS OF LUDLOW RESERVOIR, Springfield, 1912. (Parts in 100,000.)

97440	Jan. 4	Jan. 5	V. Slt.	Slight	.35	F. Veg.	F. Veg. unpl.	3.40	1.15	2.25	.0046	.0166	.0120	.0046	.23	.0030	.0000	.38	1.3	.0340
97962	Feb. 8	Feb. 12	V. Slt.	Slight	.32	V. F. Veg.	F. Veg.	4.50	1.55	2.95	.0028	.0114	.0104	.0010	.26	.0070	.0001	.36	1.6	.0300
98471	Mar. 7	Mar. 11	V. Slt.	V. Slt.	*.30	V. F. Veg.	F. Veg.	3.50	1.50	2.00	.0042	.0142	.0138	.0004	.24	.0080	.0000	.42	1.3	.0100
98981	Apr. 2	Apr. 5	V. Slt.	V. Slt.	.22	F. Veg.	F. Veg.	2.90	1.25	1.65	.0038	.0122	.0094	.0028	.15	.0000	.0000	.26	0.5	.0120
99523	May 8	May 9	V. Slt.	Slight	.25	F. unpl.	F. unpl.	2.65	1.10	1.55	.0024	.0178	.0128	.0050	.17	.0000	.0001	.48	0.8	.0150
100165	June 11	June 12	V. Slt.	V. Slt.	.34	F. Veg.	D. Veg. sw'sh	3.45	1.30	2.15	.0018	.0178	.0148	.0030	.18	.0000	.0001	.42	1.0	.0250
100788	July 2	July 5	V. Slt.	Slt. sc.	.24	Dis. grassy	Dec.gr'yAna.	3.30	1.25	2.05	.0064	.0312	.0160	.0152	.19	.0010	.0001	.37	1.3	.0210
101646	Aug. 12	Aug. 13	Decid'd	C.gr.sc.	.34	Dis. grassy	Dec.gr'yAna.	3.95	1.80	2.15	.0012	.1300	.0312	.0988	.24	.0000	.0001	.38	1.3	.0550
102364	Sept. 5	Sept. 9	Decid'd	Cns. sc.	.24	Dis. unpl.	Dec.un. d. or.	5.80	3.35	2.45	.1880	.0145	.0890	.0560	.18	.0000	.0000	.47	1.3	.0500
103061	Oct. 2	Oct. 4	Slight	Slight	.22	F. Veg.	F. Veg.	4.25	1.60	2.65	.0480	.0360	.0310	.0050	.18	.0040	.0003	.36	1.3	.0400
103913	Nov. 5	Nov. 8	V. Slt.	Slight	.20	F. Veg.	D. Veg. sw'sh	3.05	1.05	2.00	.0140	.0830	.0240	.0090	.20	.0110	.0004	.28	1.3	.0400
104616	Dec. 4	Dec. 6	V. Slt.	V. Slt.	.22	F. Veg.	Dis. Veg.	3.10	1.20	1.90	.0052	.0234	.0192	.0042	.18	.0100	.0002	.31	1.3	.0350

*Turbid.

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MASSACHUSETTS STATE BOARD OF HEALTH.

WATER ANALYSIS OF LUDLOW BASIN, Springfield, 1912. (Parts in 100,000.)

NO.	DATE.		APPEARANCE.			ODOR.		RESIDUE.			AMMONIA.				Chlorine.	NITROGEN.		Oxygen Consumed.	Hardness.	Iron.
	Collection.	Examination.	Turbidity.	Sediment.	Color.	Cold.	Hot.	Total.	Volatile.	Fixed.	Free.	Albuminoid. Total	Albuminoid. Solution.	Albuminoid. Susp.		As Nitrates.	As Nitrites.			
97441	Jan. 4	Jan. 5	V. Slt.	Slight	.34	Dis. Veg.	Dis. Veg.	4.25	1.65	2.60	.0040	.0180	.0134	.0046	.23	.0050	.0000	.39	1.4	.0400
97963	Feb. 8	Feb. 12	V. Slt.	Slight	.30	V. F. Veg.	F. Veg.	4.05	1.65	2.40	.0050	.0158	.0140	.0018	.26	.0060	.0001	.39	1.3	.0400
98472	Mar. 7	Mar. 11	V. Slt.	Slight	.30	F. Veg.	F. Veg.	3.75	1.35	2.40	.0040	.0190	.0152	.0038	.26	.0090	.0000	.39	1.3	.0060
98982	April 2	April 5	V. Slt.	V. Slt.	.23	V. F. Veg.	F. Veg.	2.95	1.10	1.85	.0030	.0148	.0120	.0028	.20	.0080	.0000	.28	0.8	.0200
99524	May 8	May 9	V. Slt.	V. Slt.	.22	F. Veg.	D. Veg. F. un.	3.05	1.20	1.85	.0028	.0170	.0122	.0048	.18	.0020	.0001	.31	0.8	.0180
100166	June 11	June 12	V. Slt.	Slight	.25	F. unpl.	Dis.unp. fishy	3.40	1.45	1.95	.0012	.0178	.0144	.0084	.18	.0000	.0000	.33	1.0	.0190
100790	July 2	July 5	V. Slt.	V. Slt.	.22	F. Veg.	F. Veg.	3.35	1.25	2.10	.0054	.0198	.0152	.0046	.18	.0010	.0000	.30	1.1	.0150
101647	Aug. 12	Aug. 13	Decid'd.	Cons.	.20	Dis. Veg.	Dis. Veg.	3.55	1.00	2.55	.0100	.0240	.0146	.0094	.28	.0250	.0003	.19	1.4	.1600
102365	Sept. 5	Sept. 9	Slight	Slight	*.32	F. unpl.	F. unpl.	4.90	1.60	3.30	.0280	.0140	.0120	.0020	.22	.0100	.0002	.25	1.3	.0700
103062	Oct. 2	Oct. 4	Slight	Slight	.24	F. Veg.	F. Veg.	3.70	1.15	2.55	.0052	.0222	.0178	.0044	.18	.0220	.0003	.24	1.3	.0700
103914	Nov. 5	Nov. 8	V. Slt.	V. Slt.	.19	V. F. Veg.	F. Veg.	3.40	1.50	1.90	.0062	.0228	.0206	.0022	.19	.0250	.0004	.24	0.8	.0500
104617	Dec. 4	Dec. 6	V. Slt.	V. Slt.	.19	V. F. Veg.	F. Veg.	2.70	1.10	1.60	.0066	.0248	.0198	.0050	.18	.0070	.0002	.32	0.8	.0350

*Turbid.

WATER ANALYSIS OF CHAPIN POND, Springfield, 1912. (Parts in 100,000.)

97436	Jan. 4	Jan. 5	V. Slt.	V. Slt.	.10	Dis. Veg.	Dis.Veg. unpl	2.60	0.95	1.65	.0020	.0192	.0178	.0014	.19	.0010	.0000	.16	1.1	.0060
97958	Feb. 8	Feb. 12	V. Slt.	V. Slt.	.02	F. Veg.	F. Veg.	3.20	1.05	2.15	.0068	.0170	.0146	.0024	.33	.0020	.0000	.12	1.3	.0150
98467	Mar. 7	Mar. 11	V. Slt.	Slight	.03	V. F. unpl.	F. unpl.	2.15	1.00	1.15	.0016	.0162	.0148	.0014	.14	.0010	.0000	.18	0.8	.0040
98977	April 2	April 5	Slight	Slight	.00	Dis. unpl.	Dec.un. d. or.	2.85	1.25	1.60	.0014	.0160	.0140	.0020	.14	.0000	.0000	.18	0.5	.0080
99619	May 8	May 9	V. Slt.	V. Slt.	.05	Dis. unpl.	Dis. un. d. or.	2.50	1.15	1.35	.0022	.0200	.0162	.0038	.14	.0000	.0000	.24	0.5	.0060
100161	June 11	June 12	V. Slt.	V. Slt.	.10	V. F. Veg.	F. Veg.	2.40	1.05	1.35	.0024	.0206	.0180	.0026	.16	.0000	.0000	.32	0.5	.0050
100785	July 2	July 5	V. Slt.	V. Slt.	.06	V. F. Veg.	F. Veg.	2.10	0.85	1.25	.0066	.0212	.0176	.0036	.16	.0000	.0002	.22	0.5	.0050
101642	Aug. 12	Aug. 13	V. Slt.	Slight	.08	F. Veg.	F. Veg.	2.45	0.90	1.55	.0050	.0208	.0180	.0028	.16	.0000	.0000	.23	0.8	.0090
102360	Sept. 5	Sept. 9	V. Slt.	Cons.	.11	V.F. Veg.	V. F. Veg.	2.75	0.90	1.85	.0070	.0208	.0160	.0048	.14	.0000	.0000	.24	0.8	.0180
103057	Oct. 2	Oct. 4	Slight	Slight	.06	F. Veg.	F. Veg.	2.50	1.05	1.45	.0022	.0208	.0150	.0058	.14	.0000	.0000	.16	0.8	.0150
103909	Nov. 5	Nov. 8	V. Slt.	Slight	.02	V. F. Veg.	F. Veg.	2.85	1.05	1.80	.0082	.0186	.0148	.0038	.17	.0010	.0001	.18	0.8	.0060
104612	Dec. 4	Dec. 6	V. Slt.	V. Slt.	.05	V. F. Veg.	F. Veg.	2.35	0.85	1.50	.0058	.0216	.0188	.0028	.12	.0000	.0000	.22	0.5	.0040

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APPENDIX XXV.

LITTLE RIVER WATER SUPPLY SPRINGFIELD, MASS.

Operating Details at West Parish Filters—1912.

E. C. Cotton, *Superintendent.*

E. E. Lochridge, *Chief Engineer.*

FILTERS SCRAPED

MONTH	Number Filters Scraped	Cubic Yards of Sand Removed			Depth in Inches		
		Maximum	Minimum	Average	Maximum	Minimum	Average
January	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0
March	1	70	70	70	1.00	1.00	1.00
April	4	138	138	138	2.00	2.00	2.00
May	0	0	0	0	0	0	0
June	4	190	121	147	2.75	1.75	2.12
July	1	173	173	173	2.50	2.50	2.50
August	2	138	138	138	2.00	2.00	2.00
September	2	138	104	121	2.00	1.50	1.75
October	1	138	138	138	2.00	2.00	2.00
November	4	138	138	138	2.00	2.00	2.00
December	3	242	69	127	3.50	1.00	1.83
Year	22	152	121	130	2.19	1.75	1.88

FILTER RUNS FOLLOWING SCRAPINGS

MONTH	Number of Runs	Million Gallons Filtered			Duration in Days		
		Maximum	Minimum	Average	Maximum	Minimum	Average
January	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0
March	1	74.31	74.31	74.31	34	34	34
April	4	111.23	84.86	98.89	51	43	48
May	0	0	0	0	0	0	0
June	4	119.63	70.46	94.45	46	33	40
July	1	81.88	81.88	81.88	43	43	43
August	2	95.97	89.66	92.81	46	45	45
September	2	100.74	77.72	89.23	49	44	47
October	1	83.67	83.67	83.67	44	44	44
November	4	64.58	50.22	56.21	30	24	26
December	3	*165.27	53.62	92.43	*68	29	42
Year	22	89.72	66.64	76.29	41	34	37

* Filter No. 1 still in operation. Amounts taken March 21, 1913.

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Operating Details at West Parish Filters—1912—(Concluded).

FILTER RUNS FOLLOWING RAKINGS

Month	Number of Runs	Million Gallons Filtered			Duration in Days		
		Maximum	Minimum	Average	Maximum	Minimum	Average
January	1	91.76	91.76	91.76	50	50	50
February	0	0	0	0	0	0	0
March	5	118.69	32.91	68.42	55	15	32
April	0	0	0	0	0	0	0
May	4	59.96	37.32	46.45	31	20	24
June	2	110.32	90.68	100.50	46	43	45
July	3	96.31	25.46	56.77	43	15	26
August	2	115.54	108.46	112.00	55	52	53
September	1	82.95	82.95	82.95	41	41	41
October	3	106.57	53.79	79.96	50	25	39
November	2	61.35	48.64	54.99	33	24	29
December	3	67.76	58.96	61.98	29	27	28
Year	26	84.42	63.06	75.56	46	31	37

FILTERS RESANDED

Number of Filters Resanded	Cubic Yards of Sand Replaced			Depth in Inches		
	Maximum	Minimum	Average	Maximum	Minimum	Average
3	1384	880	1061	20	12	15

COST PER MILLION GALLONS DELIVERED TO CITY

Items	Supervision and Laboratory	Sand Handling	Coagulant	Grounds and Buildings	Equipment	Miscellaneous	Inventory Increase	Total
Labor	$0.80	$0.35	$0.16	$0.90	$0.13	$0.19	.....	$2.53
Materials	.14	.02	.50	.88	.13	.01	.....	1.18
Total	$0.94	$0.37	$0.66	$1.28	$0.26	$0.20	—$0.14	$3.71
								—.14
								$3.57

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APPENDIX XXVI.

LITTLE RIVER WATER SUPPLY,

SPRINGFIELD, MASS.

E. C. COTTON, Superintendent. — E. E. LOCHRIDGE, Chief Engineer.

Operating Costs at West Parish Filters — 1912.

CLASSIFICATION.	JAN.	FEB.	MAR.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPT.	OCT.	NOV.	DEC.	YEARLY TOTALS.
Care of,—													
Grounds,	$158.26	$112.34	$174.10	$107.79	$259.00	$215.58	$250.12	$285.79	$287.72	$60.20	$58.52	$7.75	$1,977.17
Buildings,	.....	42.68	48.43	8.17	186.64	155.24	270.93	92.01	76.07	7.86	23.11	15.28	926.42
Equipment,	25.11	37.92	68.48	30.81	17.36	13.27	21.06	30.75	20.27	22.33	26.39	24.21	337.96
Stock and Tools,	2.25	7.31	1.76	.....	.....	.....	.....	.....	.....	.....	.....	.....	11.32
Wires,	3.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.50
Telephone,	23.44	.....	8.72	11.06	12.25	23.86	6.10	20.29	14.53	2.81	6.28	2.64	131.98
Residences,	54.00	56.34	62.17	50.64	46.01	48.41	47.25	57.38	51.74	45.10	44.34	38.77	602.15
Supervision,	184.60	184.60	230.75	184.60	184.60	230.75	184.60	230.75	252.30	258.44	243.07	184.60	2,553.66
Laboratory,	45.50	49.25	52.50	42.00	45.50	54.69	42.88	52.50	42.00	42.00	51.63	42.00	562.45
Coagulant,—													
Hauling,	.....	6.75	4.50	37.78	.....	.....	37.78	.....	.....	.....	37.78	.....	124.59
Storing,	13.22	2.88	2.63	6.56	.....	2.62	9.32	.....	.....	.....	5.77	1.96	44.96
Repairs—Apparatus,	1.12	10.37	42.68	44.27	26.84	42.10	48.41	39.46	45.22	33.57	107.73	37.06	478.83
General Cartage,	28.50	24.75	32.63	40.63	58.51	37.50	44.44	98.38	87.19	11.25	3.93	18.50	476.21
Gorge Gages,	12.85	8.13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.98
Ice Harvest,	178.74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	178.74
Thawing Pipes, Ice, etc.,	.....	84.06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	84.06
Total,	$731.09	$627.38	$729.35	$564.31	$836.71	$824.02	$962.89	$902.31	$877.04	$483.56	$608.55	$367.77	$8,514.98
Filter No. 1,—													
Cleaning,	.....	.....	11.81	36.15	.....	5.25	5.43	43.54	6.27	.....	40.20	67.75	216.40
Resanding,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	99.37	99.37
Filter No. 2,—													
Cleaning,	.....	.....	11.25	41.45	4.13	54.28	5.46	6.05	.....	27.20	5.39	20.67	175.88
Resanding,	.....	.....	.....	.....	.....	147.95	14.11	.....	.....	.....	.....	.....	162.06
Filter No. 3,—													
Cleaning,	5.63	.....	44.19	27.53	.....	5.63	.....	52.55	.....	5.61	29.16	4.75	175.05
Resanding,	.....	.....	.....	.....	.....	.....	.....	105.33	.....	.....	.....	.....	105.33
Filter No. 4,—													
Cleaning,	.....	.....	10.59	.....	4.39	34.73	6.06	35.83	.....	4.78	8.44	4.86	109.68
Resanding,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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Filter No. 5,—													
Cleaning,	.....	.....	9.73	37.16	4.96	29.36	.....	4.78	38.37	.....	27.65	23.91	175.92
Resanding,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Filter No. 6,—													
Cleaning,	.....	.....	11.25	.....	4.75	45.76	4.80	.....	46.12	.....	27.07	23.50	163.25
Resanding,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Pay Rolls,	$736.72	$627.38	$828.17	$706.60	$854.94	$1,146.98	$998.75	$1,150.39	$967.80	$521.15	$746.46	$612.58	$9,897.92
Bills for Mdse. Bought,—													
Grounds,	.....	.....	.....	.....	$57.00	$24.20	$9.05	.....	$0.75	.....	.....	.....	$91.00
Buildings,	$9.16	.....	$21.45	$32.84	.....	8.46	77.57	.....	88.76	$3.88	$137.38	.....	379.45
Freight and Express,	3.48	$5.00	3.28	.....	10.65	10.24	3.34	$5.87	5.40	8.84	2.30	$4.54	62.94
Coagulant,	.....	198.07	.....	525.00	.....	.....	525.00	.....	.....	.....	525.00	.....	1,773.07
Alum Feed Supplies,	.....	.....	.....	157.09	.....	.....	7.40	.....	.87	5.50	.....	1.71	182.57
Stock and Tools,	4.17	19.63	12.80	11.46	8.79	178.29	25.85	17.50	45.89	8.89	14.00	27.04	374.31
Sand Washer, Hose, Valves, Fittings,	4.95	86.16	.....	13.74	.....	.....	.....	.....	.....	.....	.....	.....	104.85
Laboratory Supplies,	165.89	28.10	119.13	71.84	8.10	17.72	29.81	17.50	28.46	21.16	10.05	32.86	545.62
Live Stock,	18.00	9.05	.....	32.05	.....	58.95	45.13	4.40	5.75	59.88	30.45	118.75	382.41
Repairs to Equipment,	43.57	19.50	26.12	5.61	12.60	7.20	16.29	.....	.....	.....	.32	15.20	146.41
Water Pipes to Houses,	.....	.....	.....	543.85	.....	.....	21.45	7.30	9.00	.....	.....	.....	581.60
Total Bills,	$249.22	$360.51	$182.78	$1,403.48	$97.14	$305.06	$760.89	$52.57	$184.88	$108.15	$719.45	$200.10	$4,624.23
Aggregate of Pay Rolls and Bills,	$985.94	$987.89	$1,010.95	$2,110.08	$952.08	$1,452.04	$1,759.64	$1,202.96	$1,152.68	$629.30	$1,465.91	$812.68	$14,522.15
Million Gallons Metered at Provin Mt. Reservoir,	358.28	351.81	357.98	321.69	324.72	336.09	353.02	305.18	305.68	320.33	286.79	288.65	3,910.22

Total Bills and Pay Rolls,	$14,522.15
Increase in Inventory,	549.73
Net Total Cost of Filter Operation—1912,	$13,972.42
Net Total Cost of Plant and Accessories,	$327,649.65
Interest at 4%,	$13,105.99
Total Cost of Operation including Interest,	$27,078.41

Net Cost per Million Gallons Delivered to City, Operation and Maintenance only,	$3.57
Cost including Operation, Maintenance and Interest, per Million Gallons,	$6.92
Cost per Million Gallons, Exclusive of Charges on Grounds, Buildings and Equipment,	$2.89

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CITY OF SPRINGFIELD, MASSACHUSETTS, WATER COMMISSIONERS.

SINCE ACQUISITION OF WATER WORKS BY CITY, IN 1872.

The first Board of Water Commissioners (in charge of the early construction of Ludlow supply) consisted of the following *five citizens*, who were elected by the legal voters of Springfield, May 28, 1872, to serve until January 1, 1875, in accordance with the provisions of the *first* portion of Section 5, Chapter 345, of the Acts of 1872.

Horace Smith, *Pres.*,* Samuel W. Porter, *Sec.*, A. D. Briggs, Geo. C. Fisk, Daniel L. Harris.

*Horace Smith resigned, and Charles O. Chapin was elected as his successor March 25, 1873, and chosen President of Board April 5, 1873.

From January 1, 1875, to March 29, 1880, the Board of Water Commissioners consisted of *three citizens*, who were chosen by the City Council of Springfield in accordance with the *last* portion of Section 5, Chapter 345, Acts of 1872. This portion provides, that,

> "Thereafter the rights, powers and authority granted to the said city by this act shall be vested in and exercised by a board of water commissioners, consisting of *three citizens* of said city, who shall be chosen by the city council of said city, one for the term of one year from the first day of January in the year eighteen hundred and seventy-five, one for the term of two years, one for the term of three years, and annually thereafter one water commissioner shall be so chosen to serve for the term of three years."

Under these provisions the following Boards were elected:—

1875—Charles O. Chapin, *Pres.*, Samuel W. Porter, *Sec.*, Lawson Sibley.
1876—Charles O. Chapin, *Pres.*, Samuel W. Porter, *Sec.*, Lawson Sibley.
1877—Charles O. Chapin, *Pres.*, Samuel W. Porter, *Sec.*, N. W. Talcott.
1878—Charles O. Chapin, *Pres.*, Samuel W. Porter, *Sec.*, N. W. Talcott.
1879—Charles O. Chapin, *Pres.*, Samuel W. Porter, *Sec.*, N. W. Talcott.
1880 (to March 29)—Charles O. Chapin, *Pres.*, Samuel W. Porter, *Sec.*, N. W. Talcott.

The Board of Water Commissioners established under the Act of 1872 was abolished by Chapter 30 of the Acts of 1880, which was accepted by the City Council and approved March 22, 1880, and Section 2 of which provides, that,

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"As soon as practicable after the passage of this act, the City Council of said city shall elect by ballot in joint convention *two citizens* thereof, one for the term of one year, and one for the term of two years, from February first in the year eighteen hundred and eighty, as water commissioners, who, with the *mayor* as an *ex officio* member, shall constitute the Board of Water Commissioners of said city of Springfield,* * * And hereafter said City Council shall annually in the month of January elect by ballot in joint convention one citizen as a member of said Board for the term of two years from the succeeding first day of February."

Under this act the following Boards were elected, each Board then choosing its Chairman:—

1880 (from March 29)—Lewis J. Powers, *Mayor and Ch.*, Hiram Q. Sanderson, Noyes W. Fisk.
1881—Hiram Q. Sanderson, *Ch.*, William H. Haile, *Mayor*, Noyes W. Fisk.
1882—Hiram Q. Sanderson, *Ch.*, Edwin W. Ladd, *Mayor*, Noyes W. Fisk.
1883—Hiram Q. Sanderson, *Ch.*, Henry M. Phillips, *Mayor*, Noyes W. Fisk.
1884—Hiram Q. Sanderson, *Ch.*, Henry M. Phillips, *Mayor*, Noyes W. Fisk.
1885—Hiram Q. Sanderson, *Ch.*, Henry M. Phillips, *Mayor*, Noyes W. Fisk.
1886—Hiram Q. Sanderson, *Ch.*, Edwin D. Metcalf, *Mayor*, Noyes W. Fisk.
1887—Hiram Q. Sanderson, *Ch.*, Elisha B. Maynard, *Mayor*, Noyes W. Fisk.
1888—Hiram Q. Sanderson, *Ch.*, Elisha B. Maynard, *Mayor*, Noyes W. Fisk.
1889 (to June 10)—Hiram Q. Sanderson, *Ch.*, Edward S. Bradford, *Mayor*, Noyes W. Fisk.*

*Noyes W. Fisk resigned June 10, 1889, and Charles L. Goodhue was elected June 24, 1889, as his successor.

1889 (from June 24)—Hiram Q. Sanderson, *Ch.*, Edward S. Bradford, *Mayor*, Charles L. Goodhue.
1890—Hiram Q. Sanderson, *Ch.*, Edward S. Bradford, *Mayor*, Charles L. Goodhue.
1891—Hiram Q. Sanderson, *Ch.*, Edward S. Bradford, *Mayor*, Charles L. Goodhue.
1892 (to May 1)—Hiram Q. Sanderson, *Ch.*,* Lawson Sibley, *Mayor*, Charles L. Goodhue.

*Hiram Q. Sanderson died May 1, 1892, and Richard F. Hawkins was elected Commissioner June 6, 1892, for the balance of the former's term; Charles L. Goodhue was then chosen Chairman of the Board.

1892 (from June 6)—Charles L. Goodhue, *Ch.*, Lawson Sibley, *Mayor*, Richard F. Hawkins.
1893—Charles L. Goodhue, *Ch.*, Edmund P. Kendrick, *Mayor*, Richard F. Hawkins.*

*Richard F. Hawkins, having served the portion of the term for which he was elected, declined to serve longer, and January 22, 1894, James F. Bidwell was elected as his successor.

1894—Charles L. Goodhue, *Ch.*, Edmund P. Kendrick, *Mayor*, James F. Bidwell.

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1895—Charles L. Goodhue, *Ch.*, Charles L. Long, *Mayor*, James F. Bidwell.
1896—Charles L. Goodhue, *Ch.*, Newrie D. Winter, *Mayor*, James F. Bidwell.
1897—Charles L. Goodhue, *Ch.*, Newrie D. Winter, *Mayor*, James F. Bidwell.
1898—Charles L. Goodhue, *Ch.*, Henry S. Dickinson, *Mayor*, James F. Bidwell.
1899—Charles L. Goodhue, *Ch.*, Dwight O. Gilmore, *Mayor*, James F. Bidwell.
1900—Charles L. Goodhue, *Ch.*, William P. Hayes, *Mayor*, James F. Bidwell.
1901—Charles L. Goodhue, *Ch.*, William P. Hayes, *Mayor*, James F. Bidwell.
1902 (to July 1)—Charles L. Goodhue, *Ch.*, Ralph W. Ellis, *Mayor*, James F. Bidwell.*

*James F. Bidwell resigned July 1, 1902, and Charles H. Bennett was elected July 28, 1902, as his successor.

1902 (from July 28)—Charles L. Goodhue, *Ch.*, Everett E. Stone, *Mayor*, Charles H. Bennett.
1903—Charles L. Goodhue, *Ch.*, Everett E. Stone, *Mayor*, Charles H. Bennett.
1904—Charles L. Goodhue, *Ch.*,* Everett E. Stone, *Mayor*, Charles H. Bennett.

*Charles L. Goodhue resigned January 23, 1905, and Everett E. Stone was elected Commissioner January 31, 1905, and was then chosen Chairman of the Board.

1905—Everett E. Stone, *Ch.*, Francke W. Dickinson, *Mayor*, Charles H. Bennett.
1906—Everett E. Stone, *Ch.*, Francke W. Dickinson, *Mayor*, Charles H. Bennett.
1907—Everett E. Stone, *Ch.*, William E. Sanderson, *Mayor*, Charles H. Bennett.
1908—Everett E. Stone, *Ch.*,* William E. Sanderson, *Mayor*, Charles H. Bennett.

*Everett E. Stone resigned as Chairman (retaining membership in Board) May 6, 1908, and the Water Board elected Charles H. Bennett, Chairman.
Mr. Stone resigned as Commissioner September 21, 1908, and Stanford L. Haynes was elected by the City Council September 28, 1908, for the remainder of the former's term.

1909—Charles H. Bennett, *Ch.*, William E. Sanderson, *Mayor*, Stanford L. Haynes.
1910 (to January 19)—Charles H. Bennett, *Ch.*,* Edward H. Lathrop, *Mayor*, Stanford L. Haynes.

*Charles H. Bennett died January 19, 1910, and Clifton A. Crocker was elected Commissioner by the City Council January 31, 1910, for two years from February 1, 1910; the Water Board elected Mr. Crocker Chairman February 1, 1910.

1910 (from February 1)—Clifton A. Crocker, *Ch.*, Edward H. Lathrop, *Mayor*, Stanford L. Haynes.
1911 (to June 20)—Clifton A. Crocker, *Ch.*, Edward H. Lathrop, *Mayor*, Stanford L. Haynes.*

*Stanford L. Haynes resigned June 20, 1911, and Fred R. Brown was elected by the City Council, September 18, 1911, for the remainder of the former's term.

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1911 (from September 18)—Clifton A. Crocker, *Ch.*,* Edward H. Lathrop, *Mayor*, Fred R. Brown.

*Clifton A. Crocker declined to be a candidate for re-election, and Herbert C. Puffer was elected by the City Council January 29, 1912, for two years from February 1, 1912; the Water Board elected Mr. Brown Acting Chairman, February 5, 1912, in the absence of Mr. Puffer from the city. On Mr. Puffer's return Mr. Brown was elected Chairman April 2, 1912.

1912—Fred R. Brown, *Ch.*, Edward H. Lathrop, *Mayor*, Herbert C. Puffer.

1913—Fred R. Brown, *Ch.*, John A. Denison, *Mayor*, Herbert C. Puffer.

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FORTY-FOURTH ANNUAL REPORT

OF THE

STREET DEPARTMENT.

SPRINGFIELD, MASS., December 28, 1912.

To the City Council:—

In accordance with the requirements of Chapter 19, Section 5, of the Revised Ordinances, I have the honor of presenting statements of receipts and expenditures of the Street Department and descriptions of work done during the fiscal year ending December 1, 1912.

FINANCES IN GENERAL.

REGULAR ACCOUNTS.

RECEIPTS.

Highways and Bridges appropriation,.....	$302,000 00	
Walks and Curbing appropriation,.....	28,500 00	
Watering Streets appropriation,.....	42,000 00	
Ashes Collection appropriation,.....	51,500 00	
Garbage Collection appropriation,.....	19,975 00	
		$443,975 00

EXPENDITURES.

Highways and Bridges,.....	$306,121 66	
Walks and Curbing,.....	28,939 23	
Watering Streets,.....	41,592 82	
Ashes Collection,.....	44,821 40	
Garbage Collection,.....	20,180 67	
		$441,655 78

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BY TRANSFERS.

Highways and Bridges,	$11,332 69		
Walks and Curbing,	519 98		
Watering Streets,	174 40		
Ashes Collection,	753 64		
Garbage Collection,	205 67		
		$12,986 38	
		$428 669 40	

UNEXPENDED BALANCES.

Highways and Bridges,	$7,211 03		
Walks and Curbing,	80 75		
Watering Streets,	581 58		
Ashes Collection,	7,432 24		
Garbage Collection,	.....		
		15,305 60	
			$443,975 00

SPECIAL ACCOUNTS.

LOCUST STREET LAYOUT.

Limit of expenditures,	$31,634 00	
Expenditures,	30,510 45	
Unexpended balance,		$1,123 55

PAGE BOULEVARD.

Limit of expenditures,	$21,304 00	
Expenditures,	7,985 45	
Unexpended balance,		$13,318 55

BIRNIE AVENUE EXTENSION.

Limit of expenditures,	$28,000 00	
Expenditures,	26,049 37	
Unexpended balance,		$1,950 63

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WORK IN GENERAL.

Streets,	Grading and graveling,	1,760 feet
	Macadamizing,	26,338 feet
	Macadam resurfacing,	5,171 feet
	Asphalt resurfacing,	194 sq. yards
	Bitulithic paving,	201 feet
	Bitulithic paving, skim coating,	1,766 sq. yards
	Wood block paving,	3,909 feet
Street cleaning,	Gravel,	7.42 miles
	Macadam,	78.34 miles
	Paving,	13.00 miles
Sidewalks,	Brick, new,	914 feet
	Brick, relaid,	974 feet
	Cement concrete, new,	6,146 feet
Curbing,	Set,	14,742 feet
	Reset,	12,146 feet
Crosswalks, new,		47
Streets watered and oiled,		96.87 miles
Ashes and rubbish collected,		28,864 loads
Garbage collected,		1,736 cords

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FINANCES ITEMIZED.

HIGHWAYS AND BRIDGES.

RECEIPTS.

Appropriations,	$302,000 00

EXPENDITURES.

Automobiles, repairs and supplies,		$5,143 47
Bridges, repairs and care,		16,402 57
City teams, uncredited,		590 34
City yard, Logan street,		7 25
City yard, Summer street,		3,109 02
Engineering,		78 29
Foremen's winter and holiday pay,		1,654 90
Office and general expenses,		4,174 50
Rebates,		5 00
Salary of Assistant Superintendent, part,		2,373 53
Street maintenance, General repairs,		42,376 08
Macadam resurfacing,		7,394 22
Paving resurfacing,		2,207 69
Tools and supplies,		6,764 32
Work and material charged to private parties,		11,986 10
Work and material charged to departments,		12,817 60
		$117,084 88
By material used from 1912 inventory:—		
Lumber for bridges,	$9,963 59	
Material used on streets,	1,569 02	
By transfers,	11,332 69	
		22,865 30
		$94,219 58
Winter expense,		20,537 40
		$114,756 98

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Street cleaning,	Cleaning streets,	$44,614 56	
	Cleaning equipment,	1,122 98	
		$45,737 54	
By city teams,		20 13	
			$45,717 41
			$160,474 39
Street construction,	Grading and graveling,	$2,789 11	
	Macadamizing,	96,688 05	
	Paving,	42,155 02	
	Engineering,	833 54	
		$142,465 72	
By material charged, paid 1913,		8,151 14	
			134,314 58
			$294,788 97
Balance unexpended,			7,211 03
			$302,000 00

BILLS RECEIVABLE.

Sales:			
Bills receivable November 30, 1911,		$58 48	
Bills committed fiscal year 1912,		1,508 20	
			$1,566 68
Bills paid fiscal year 1912,		$1,512 43	
Abatements,		4 25	
			1,516 68
Bills receivable November 30, 1912,			$50 00

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Services rendered:			
Bills receivable November 30, 1911,	$10,702 41		
Bills committed fiscal year 1912,	20,082 00		
		$30,784 41	
Bills paid fiscal year 1912,	$28,569 01		
Abatements,	423 25		
		28,992 26	
Bills receivable November 30, 1912,			$1,792 15
Street Licenses granted:			
Bills receivable November 30, 1911,	$59 00		
Bills committed fiscal year 1912,	5,241 33		
		$5,300 33	
Bills paid fiscal year 1912,	$5,277 33		
Abatements,	13 00		
		5,290 33	
Bills receivable November 30, 1912,			10 00
Total,			$1,852 15

WALKS AND CURBING.

RECEIPTS.

Appropriations,	$28,500 00

EXPENDITURES.

Maintenance:		
Crosswalks, relaid,	$2,956 45	
Curbing, reset,	3,805 62	
Engineering,	270 03	
Foremen's winter and holiday pay,	56 18	
Office and general expenses,	230 40	
Salary Assistant Superintendent, part,	119 87	
Tools and supplies,	347 97	

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Sidewalk repairs charged city,	$1,308 16		
Work and material for departments,	170 73		
Sales,	88 04		
Work and material for abutters,	1,555 94		
	$10,909 39		
By transfers,	519 98		
		$10,389 41	
Construction:			
Crosswalks, new,	$1,790 08		
Curbing set,	3,632 26		
Engineering,	238 93		
Sidewalks charged city,	1,118 06		
Work and material charged abutters,	13,271 78		
	$20,051 11		
By material and city teams, 1913,	2,021 27		
		18,029 84	
		$28,419 25	
Unexpended balance,		80 75	
			$28,500 00

BILLS RECEIVABLE.

Sales:			
Bills receivable November 30, 1911,	$16 66		
Bills committed fiscal year 1912,	74 26		
		$90 92	
Bills paid fiscal year 1912,		47 42	
Bills receivable November 30, 1912,			$43 50

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Services rendered:			
Bills receivable November 30, 1911,	$4,694 28		
Bills committed fiscal year 1912,	10,998 27		
		$15,692 55	
Bills paid fiscal year 1912,	$12,508 22		
Abatements,	426 46		
		12,934 68	
Bills receivable November 30, 1912,			$2,757 87
			$2,801 37

WATERING STREETS.

RECEIPTS.

Appropriation,		$42,000 00

EXPENDITURES.

General expense,	$336 51	
Standpipes and car hydrants—construction, maintenance, opening and closing,	2,240 81	
Carts—storage, painting, and repairs,	2,391 91	
Labor and teams as per pay roll,	5,038 97	
Watering streets, teams as per contract,	1,727 25	
American Car Sprinkler Company, as per contract,	8,494 08	
Oiling streets—labor, teams, and oil,	19,972 86	
Inspector,	604 23	
Inspector's horse and carriage,	225 18	
Tools and material,	14 20	
Oil equipment,	70 25	
Private parties—use of teams, sale of oil,	506 88	
	$41,622 13	
City teams credited,	29 31	
	$41,592 82	
By transfers from other departments,	174 40	
	$41,418 42	
Unexpended balance,	581 58	
		$42,000 00

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ASHES COLLECTION.

RECEIPTS.

Appropriation,		$51,500 00

EXPENDITURES.

Pay rolls,	$37,874 42	
Contracts,	750 00	
Provender,	2,571 21	
Shoeing, veterinary, and miscellaneous,	443 04	
Vehicles and harness, supplies and repairs,	843 74	
Tools and supplies,	44 69	
Telephone and lighting,	48 82	
Barn repairs and supplies,	148 12	
Covers,	44 00	
Automobile,	235 00	
Ashes collection and repairs to tools by Highways and Bridges department,	1,818 36	
	$44,821 40	
By transfers from Highways and Bridges department,	753 64	
	$44,067 76	
Unexpended balance,	7,432 24	
		$51,500 00

GARBAGE COLLECTION.

RECEIPTS.

Appropriation,		$22,975 00

EXPENDITURES.

Pay roll,	$15,421 12	
Provender,	2,954 89	
Shoeing, veterinary, and miscellaneous,	409 58	
Barn repairs and supplies,	149 17	
Vehicles and harness, supplies and repairs,	312 76	
Tools and supplies,	36 98	
Covers and blankets,	13 00	

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Automobile,	$405 00	
Telephone and lighting,	39 77	
Investigating Committee—disposal of garbage,	426 90	
General expense,	11 50	
	$20,180 67	
By transfer from Ashes Collection,	205 67	
	$19,975 00	
Transferred to Walks and Curbing department,	3,000 00	
		$22,975 00

BIRNIE AVENUE EXTENSION.

Limit of expenditure,		$28,000 00

EXPENDITURES.

Grading and building retaining wall,	$26,049 37	
Unexpended balance,	1,950 63	
		$28,000 00

LOCUST STREET EXTENSION.

Limit of expenditure previously reported,		$31,634 00

EXPENDITURES.

Previously reported,	$17,091 50	
F. T. Ley & Co., contract,	5,780 65	
Land taken,	7,000 00	
Miscellaneous,	638 30	
	$30,510 45	
Unexpended balance,	1,123 55	
		$31,634 00

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PAGE BOULEVARD.

Limit of expenditure,		$21,304 00

EXPENDITURES.

Land taken,	$3,530 00	
Macadamizing,	4,455 45	
	$7,985 45	
Unexpended balance,	13,318 55	
		$21,304 00

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WORK ITEMIZED.

BRIDGES.

REPAIRS AND CARE.

	Description of Work.	Cost.
*Abbe avenue overhead crossing,	Painting and railing repairs,	$260 80
Armory street over B. & A. Railroad,	Floor repairs,	113 92
Armory street over N. Y., N. H., & H. Railroad,	Floor repairs,	55 40
Berkshire street, I. O., Red House crossing,	Floor repairs,	34 28
Ludlow—Indian Orchard,	Floor repairs,	18 96
Main street, I. O.,	Floor repairs,	221 66
North end, over Conn. River,	Replanking floor,	1,484 90
Old Toll,	Floor repairs and care,	595 06
Plainfield street,	Floor repairs,	138 35
South end, over Conn. River,	Strengthening floor system and laying wood blocks,	12,180 52
South end, over N. Y., N. H., & H. Railroad,	Laying wood blocks,	1,207 76
St. James avenue,	Floor repairs,	84 50
Sundry,	Floor repairs,	6 46
		$16,402 57

*Contract for labor painting paid in 1913.

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STREET CONSTRUCTION.

*GRADING AND GRAVELING.

Street.	Length in feet.	Area in sq. yds.	Total Cost.
Kensington avenue, completion,			$516 34
Knox street,	1,125	3,750	1,485 13
Lester street,	635	2,118	200 41
Maplewood terrace,			90 50
Riverview terrace,			440 02
Wilmont street, completion,			56 71
	1,760	5,868	$2,789 11

*Old gravel taken from new macadam streets was used in this work.

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WORK ITEMIZED.

BRIDGES.

REPAIRS AND CARE.

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Riverview terrace,			440 02
Wilmont street, completion,			56 71
	1,760	5,868	$2,789 11

*Old gravel taken from new macadam streets was used in this work.

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STREET CONSTRUCTION.

MACADAM.

Street.	Limits.	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
*Amaron street—Tarine,		408	1,475	$0 56	$826 25
Belmont avenue—Texas penetration,	White street to the X,	3,634	19,434	97	18,791 99
Charles street—Endurite,		626	1,940	1 29	2,502 24
Chestnut street—Endurite,	Worthington to Bridge,	281	2,630	1 50	3,944 27
	Pearl street to Harrison avenue,	441			
Clarendon street—Trinidad,		140	1,204	87	1,048 89
Cornell street—Trinidad,		1,283	4,275	58	2,474 30
*Cumberland street—Tarine,	Main to North,	372	1,240	34	423 58
Dartmouth terrace—Trinidad,		488	2,544	53	1,358 10
*Donald street—T'arite,		444	1,480	70	1,038 83
Greene street,		1,347	4,490	48	2,171 12
†Locust street extension—Tarine,		2,495	7,682	1 96	15,080 15
Lowell street,		1,390	4,633	61	2,817 96
Mason street—Texas penetration,		661	2,203	1 07	2,350 45

*Includes some old rock used from other streets.

†In addition to cost shown above, $1,071 was charged Longhill street for hauling fillings from Locust street extension.

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STREET CONSTRUCTION.

MACADAM—CONTINUED.

Street.	Limits.	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
*Massasoit street—Tarine,	Prospect street to end of public street,	1,148	3,827	$0 62	$2,373 61
*Montrose street—Tarine,		973	3,242	63	2,042 47
Oak street—Endurite,		1,356	4,462	1 28	5,729 39
Orchard street,		1,040	3,467	57	1,962 63
Pearl street—Endurite,		983	2,817	1 28	3,605 00
Pineywoods avenue, completion of 1911,					86 50
Princeton street—Trinidad,	St. James avenue to Cornell street,	267	890	51	450 12
Ridgewood place,		587	1,193	51	609 64
Sumner avenue — Bermudez penetration,	Sumner terrace to the X, north side,	1,700	4,236	1 17	20,809 65
	White street to the X,	2,090	13,460		
*Walter street—Tarine,		390	1,300	69	891 88
Washburn street,		1,400	4,667	54	2,517 72
Wellesley street—Trinidad,		444	1,480	53	781 31
		26,338	100,271		$96,688 05

*Includes some old rock used from other streets.

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STREET CONSTRUCTION.

RECAPITULATION.

	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
Macadam, water-bound,	5,714	18,450	$0 54	$10,079 07
Macadam, completion of 1911 work,				86 50
Macadam, with Texas penetration,	4,295	21,637	98	21,142 44
Endurite,	3,687	11,849	1 33	15,780 90
Macadam, with Trinidad surface,	2,622	10,393	59	6,112 72
Macadam, with Tarine penetration,	5,786	18,766	1 15	21,637 94
Macadam, with Tarite penetration,	444	1,480	70	1,038 83
Macadam, with Bermudez penetration,	3,790	17,696	1 17	20,809 65
	26,338	100,271		$96,688 05

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STREET CONSTRUCTION.

PAVING.

Street.	Limits.	Material.	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
Belmont avenue,	At Fort Pleasant,	Mack blocks,		133	$3 00	$400 00
Chestnut street,	Bridge to Pearl,	Bitulithic,	201	952	2 50	2,380 68
East Court street,	Market to Dwight,	Wood blocks,	372	941	3 05	2,868 19
North Main street,	Grove to Thomas,	Wood blocks,	691	2,536	3 27	8,289 93
Sanford street,	Market to Dwight,	Wood blocks,	371	1,324	3 11	4,115 06
*South end bridge approach,		Wood blocks,	180	434		
State street,	Highland Div. N. Y., N. H. & H. Railroad to Amaron street,	Wood blocks,	1,106	4,271	3 14	13,404 78
Willow street,		Wood blocks,	1,189	3,443	3 11	10,696 38
			4,110	14,034		$42,155 02

*Cost given in table of bridges.

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STREET MAINTENANCE.

MACADAM RESURFACING.

Street.	Limits.	Material.	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
Buckingham place,		Trinidad asphalt,	275	916	$0 054	$49 12
Buckingham street,	State to Clarendon,	Trinidad asphalt and Texas oil,	2,006	6,648	038	253 86
North street,	Liberty to Ferry,	Tarine,	196	1,002	459	459 92
Pecousic avenue,	Longhill street to 1030 feet south of South end bridge,	Texas penetration oil,	2,694	8,708	76	6,631 32
			5,171	17,274		$7,394 22

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STREET MAINTENANCE.

PAVING RESURFACING.

BITULITHIC SKIM-COATING.

Street.	Area in sq. yds.	Cost.
Bridge street,	387.90	$484 87
Maple street,	105.40	131 75
State street,	401.40	501 75
Taylor street,	418.80	522 88
Walnut street,	453.15	566 44
	1,766.15	$2,207 69

ASPHALT REPAIRS.

Street.		Area in sq. yds.	Cost.
Bridge street,	Rock asphalt,	99.96	$249 90
Court street,	Rock asphalt,	27.77	69 42
Elm street,	Rock asphalt,	21.03	52 58
Harrison avenue,	Trinidad asphalt,	45.70	114 25
		194.46	$486 15

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STREET MAINTENANCE.

General Repairs.

Street.	Gravel.	Macadam.	Paving.	Receiving Basins.	Miscellaneous.	Total Cost.
Albany st.,		$69 00			$1,000 61	$1,069 61
Alden st.,		41 17				41 17
Alderman st.,	$90 00					90 00
Allen st.,	1,587 99	10 38			7 29	1,605 66
Armory st.,	298 35	21 18			82 36	401 89
Bay rd.,	462 23					462 23
Bay st.,	116 95	150 88				267 83
Belmont ave.,		339 77		$5 60	1 56	346 93
Benton st.,	81 22					81 22
Berkshire ave., I. O.,	2,321 08				61 92	2,383 00
Berkshire st., I. O.,	15 42	44 18		17 40	24 13	101 13
Biltmore st.,				57 08		57 08
Bircham Bend,	31 53				2 39	33 92
Birnie ave.,		24 07		91 01		115 08
Boston rd.,	3,078 53				72 29	3,150 82
Bridge st.,			$79 17			79 17
Buckingham st.,		25 75				25 75
Butler st.,				82 43		82 43
Cambridge st.,	51 27					51 27
Carew st.,	102 42				4 31	106 73
Cedar st.,		22 88		21 18		44 06
Central st.,		364 88		62 55		427 43
Charles st.,		22 76		12 18		34 94
Cherry st.,	24 00					24 00
Chestnut st.,		30 50	56 87	65 80		153 17
Chicopee rd.,	41 44					41 44
College st.,	32 41			18 25		50 66
Colton st.,	34 32					34 32
Cypress st.,			322 34		10 32	332 66
Dawes st.,	44 32					44 32
Demond ave.,				33 32		33 32
Dexter st.,	13 10			23 42		36 52
Dickinson st.,	1,017 95	24 97		71 45		1,114 37
Dwight st.,			112 97	8 22		121 19
East Alvord st.,				45 46		45 46
Eastern ave.,		298 39		24 13		322 52
Elm st.,			1 97	21 23		23 20

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STREET MAINTENANCE.

GENERAL REPAIRS—Continued.

Street.	Gravel.	Macadam.	Paving.	Receiving Basins.	Miscellaneous.	Total Cost.
Everett st.,				$25 78		$25 78
Fiberloid st., I. O.,	$29 64				$5 76	35 40
Florida st.,		$39 00				39 00
Fort Pleasant ave.,		6 87		13 40	4 21	24 48
Foster st.,	133 50			4 70		138 20
Franklin st.,		46 21		14 89		61 10
Fulton st.,		22 42	$186 53		10 09	219 04
Greenacre sq.,	351 06			6 45		357 51
Hampden st., I. O.,	18 70				16 68	35 38
Hancock st.,	49 78	3 44		24 21		77 43
Harrison ave.,		24 93	14 61	6 06		45 60
Hayden ave.,	91 51			48 00		139 51
Hickory st.,	29 95				14 02	43 97
Hollywood st.,	83 13					83 13
Knox st.,	19 88			6 87		26 75
Liberty st.,	523 55	298 66	13 91	10 64		846 76
Locust st.,		209 29		13 36		222 65
*Long Hill st.,					1,071 00	1,071 00
Lombard st.,				26 12		26 12
Lyman st.,			184 96	48 83		233 79
Main st., I. O.,	96 37	363 14		21 92	71 44	552 87
Main st.,		19 31	225 95	53 69	141 59	440 54
Malden st.,	39 52					39 52
Maple st.,		65 03	82 98			148 01
Marble st.,				20 84		20 84
Marengo park,		54 88				54 88
Marion st.,	23 58					23 58
Marlborough st.,				49 97		49 97
Mason st.,	57 25					57 25
Maynard st.,	94 87					94 87
Mill st.,		27 53		39 64		67 17
Montrose st.,	42 11					42 11
Myrtle st., I. O.,	56 02					56 02
North st.,		41 94				41 94
Northampton ave.,	60 43					60 43
North Main st.,		84 50	17 45	39 40	14 26	155 61
Oak st., I. O.,	94 26	71 37		5 13	24 21	194 96
Oakland st.,		59 07				59 07

* Hauling filling from Locust street extension.

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STREET MAINTENANCE.

General Repairs—Continued.

Street.	Gravel.	Macadam.	Paving.	Receiving Basins.	Miscellaneous.	Total Cost.
Orange st.,	$289 10				$8 45	$247 55
Orchard st.,				$37 10		37 10
Ormond st.,	17 10			27 99		45 09
Parker st.,	1,681 93				53 16	1,735 09
Pasco st., I. O.,	131 62				24 17	155 79
Patton st.,		$3 43		23 81		27 24
Pearl st.,		36 91		5 90		42 81
Pecousic ave.,		90 44		4 70		95 14
Pine st.,		93 87		5 54		99 41
Plainfield st.,		66 81		105 60		172 41
Plumtree rd.,	294 66					294 66
Queen st.,	29 45					29 45
St. James ave.,	629 83	73 38			14 73	717 94
Sharon st.,		53 49				53 49
Shattuck st.,	157 26					157 26
Sixteen Acre rd.,	251 46					251 46
Sorrento st.,				64 38		64 38
State st.,		1,508 47	$296.24	5 22	6 80	1,816 73
Stony Hill rd.,	23 74					23 74
Summer st.,		3 43	22 53	136 26		162 22
Sumner ave.,	360 00	39 74			20 63	420 37
†Sundry sts.,	974 99	8,920 46	31 26	402 69	136 21	10,465 61
Talcott ave.,				20 36		20 36
Taylor st.,		38 36	58 15	21 78		118 29
Tinkham rd.,	263 66					263 66
Trinity ter.,				105 42		105 42
Union st.,	7 86	246 24		29 49		283 59
Virginia st.,				62 55		62 55
Walnut st.,			265 31	14 05		279 36
Warwick ave.,		280 56				280 56
Water st.,		68 13		5 89		74 12
Wellington st.,	165 75					165 75
West Alvord st.,				41 32		41 32
Westford ave.,	49 78					49 78
White st.,	34 43	130 76		6 80		171 99
Wilbraham rd.,	1,808 12	327 88		2 52	225 73	2,364 25
Windsor st.,	24 39					24 39
Woodside ter.,		41 38				41 38

†Individual street repairs costing less than $20.

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STREET MAINTENANCE.

GENERAL REPAIRS—Continued.

Street.	Gravel.	Macadam.	Paving.	Receiving Basins.	Miscellaneous.	Total Cost.
Worcester ave.,	$198 02					$198 02
Worcester st., I. O.,	636 15	$79 45		$18 04	$59 94	793 58
Worthington st.,		61.87	$26 18		4 88	92 93
	$19,313 94	$15,096 41	$1,999 38	$2,288 06	$3,195 14	$41,889 93

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SIDEWALKS AND CURBING.

CONSTRUCTION AND RECONSTRUCTION.

By orders of the City Council.

Street.	Length in feet.	SIDEWALKS. Material.	SIDEWALKS. Description.	CURBING. Length in feet. 4″	CURBING. Length in feet. 6″	Order Approved.
Armory street,	3,585	Cement concrete,	New,			Dec. 12, 1911.
Belmont avenue,				5,335		May 28, 1912.
Benton street,				2,772		July 12, 1911.
Carew street,	356	Cement concrete,	New,			July 9, 1912.
Cumberland street,	146	Cement concrete,	New, with concrete curb,	384		June 6, 1911.
Eastern avenue,	433	Cement concrete,	New,			Nov. 29, 1911.
Eastern avenue,	493	Cement concrete,	New, with concrete curb,	631		June 6, 1911.
Pease street,	200	Cement concrete,	New,			Sept. 12, 1911.
Sumner avenue,				1,062		July 2, 1912.
Tenth street,	974	Brick,	Relaid,			Oct. 3, 1911.
Vermont street,				355		Oct. 24, 1911.
Washburn street,				2,674		Oct. 2, 1906.
Wilbraham road,	339	Cement concrete,	New,			July 13, 1911.
Worcester avenue,	914	Brick,	New,			Oct. 3, 1911.
Worcester avenue,	594	Cement concrete,	New,	1,528		Oct. 3, 1911.

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STREETS MADE PUBLIC.

By order of the City Council.

Name.	Limits.	Length in feet.	Width in feet.
Bristol street,	Wilbraham road to Gunn property,	1,458	50
Broadway,	Worthington to Vernon street,	719	60
Chicopee road,	Carew to Liberty street,	1,111	50
Commonwealth ave.,	Washington to Fairview street,	703	50
Greenacre square,	Foster to Foster street,	488	30
Groveland street,	Dickinson street to Longmeadow line,	657	50
Hollywood street,	Dickinson street to Belmont avenue,	816	50
Jasper street,	Berkshire avenue to Boston road,	947	50
Maple court,	Maple to Pine street,	689	25.3–34
Norman street,	Carew to Roy street,	961	50
Page boulevard,	St. James avenue to Highland terrace,	3,562	70
Roy street,	Chicopee road to Norman street,	290	50
Spencer place,*	Sumner avenue to N. Y., N. H. & H. railroad,	593	50
	2.461 miles.	12,994	

* Renamed Spencer street December 10, 1912.

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STREETS RELOCATED AND WIDENED.

By order of the City Council.

Name.	Limits.	Length in feet.	Width in feet.
Main street, I. O.,	Ludlow avenue, westerly,	376	
Water street,	Gardner street to Whitney place,	674	80

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INVENTORY.

STREET AND SEWER DEPARTMENTS.

Lands.	
City Yard, Logan street,	$8,500 00
City Yard, Summer street,	30,800 00
Gravel bank, Five Mile pond,	100 00
Gravel bank, Boston road,	75 00
Gravel bank, Island pond,	350 00
Trap rock quarry, Westfield,	250 00
Buildings and structures.	
Barn, wagon house, and shed,	16,048 00
Scales,	318 00
Steam roller house,	800 00
Trap rock bins and trestle,	9,000 00
Horses, wagons, etc.	
Three automobiles,	1,600 00
One auto truck,	4,370 00
Fourteen horses,	2,225 00
Harness, blankets, etc.,	404 70
Provender,	767 25
Sixteen wagons and carts,	1,495 00
Sixteen sleighs, sleds, etc.,	500 00
Special tools and machines.	
Two concrete mixers,	1,569 00
Hoisting engine,	600 00
Horse rollers,	150 00
Macadam scraper,	140 00
Eight portable kettles,	800 00
Scarifier,	410 00
Sewer pumps and portable boiler,	235 00
Six steam rollers,	7,200 00
Street sweepers and cleaning equipment,	1,629 27
Stone dray,	250 00
Street and Sewer materials.	
Asphalt binder,	550 54
Castings and patterns,	562 05
Lumber,	1,396 03
Sand and sand tickets,	40 00

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Trap rock,	$927 19
Paving brick and wood blocks,	1,880 18
Vitrified clay pipe,	365 21
Street Watering Equipment.	
Nineteen water carts,	3,250 00
Three pressure carts,	750 00
Two tanks for road oil,	1,500 00
Tools and Supplies,—miscellaneous.	
Lanterns and globes, etc.,	87 25
Machine shop stock and tools,	1,090 00
Sidewalk materials and tools,	2,143 09
Miscellaneous materials and tools,	4,052 75
Office furniture and equipment,	570 00
	$109,750 51

ASHES AND GARBAGE COLLECTIONS.

Land and buildings.	
State street, land and buildings,	$10,000 00
South end barn,	800 00
Rubbish burner, Pecousic avenue,	5,500 00
Horses, wagons, etc.	
Twenty-five horses (twenty-three horses, two mules),	2,500 00
Twenty-one wagons,	2,280 00
Seventeen sleighs,	1,300 00
Harness, blankets, etc.,	470 00
Provender,	465 00
Tools and supplies.	
Fifty-two barrel carriers,	52 00
Thirty-two garbage pails,	32 00
Twenty wagon covers,	48 00
Small tools,	50 00
Automobile,	550 00
	$24,047 00

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GENERAL DESCRIPTIONS.

Attention is called to tables in this report, showing costs of the work done by the department during the past fiscal year in maintenance and construction of streets, street cleaning, watering streets or dust laying, sidewalk construction and repairs, and the collection of ashes and garbage. The expenditure of the above mentioned accounts, together with costs of street construction under special accounts, amount to $465,593.17.

MACADAM.

Most of our macadam streets have been constructed this year with a bituminous binder. This is proving very satisfactory and I would advise that all new macadam work be laid by either the penetration or mixing method. A machine to mix rock and asphalt should be purchased the coming spring, and also a tandem roller.

Four of our old macadam streets have been resurfaced with endurite this season and I am confident will last a number of years. The endurite process would seem a desirable way of treating a number of our macadam streets where the traffic is too heavy for the present macadam, and where more expensive permanent paving would not be justified.

We have used two kinds of asphalt and one kind of tar the past season.

There are miles of old gravel roads within the city limits which should be macadamized, and I recommend that a beginning be made on some of the following streets:—

Armory street, northerly of Carew.
Liberty street, from Carew street to the city line.
St. James avenue, from bridge over N. Y. N. H. & H. Railroad to the city line.
Berkshire street, one side, from Pine Point to Indian Orchard.
Wilbraham road, from the end of the present macadam to Watershops pond.

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Tyler street.
Queen street.
Orange street.
Dickinson street, from Mill street to Forest Park entrance.

The old rock which would be taken from some of the streets we should pave, would serve to greatly reduce the cost of building above streets.

In noting the improved conditions which exist in streets where bituminous macadam has taken the place of the former gravel roads, Sumner avenue and Belmont avenue, each from the X to White street, will serve as good illustrations.

PAVING.

Paving, this season, has consisted of 12,949 square yards of wood blocks and 952 square yards of bitulithic at a total cost of $42,155.02. This is surely a small expenditure, on permanent paving, for a city of the size of Springfield, where there are so many streets in which traffic is too heavy for the old water-bound macadam streets. The cost of maintenance on these streets is very large, they are always rough and uneven and altogether very unsatisfactory to ride over. The patching of holes or depressions in such roads is also very unsatisfactory.

The conditions referred to above exist in some of our principal streets, and I would recommend that as many as possible of the following streets be paved the coming season:—

North Main street, from Cumberland street to Wason avenue.
West State street, completion.
Stockbridge street, from Main to Willow street.
Union street, from Main to Willow street.
Park street, from Main to Willow street.
Hubbard avenue, from Main to Willow street.
Locust street, from Main to Mill street.
Fulton street, from Vine to Seventh street.

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State street, from Mapledell street to Colonial avenue.
State street, from Oak to Terrence street, completion.
Walnut street, from Ashley to Hickory street.
Liberty street, from depot entrance to Chestnut street, completion.
Emery street.
Taylor street, from Dwight to Chestnut street.
Elm street, from Court Square to Water street.
Sharon street.
Spring street.
Carew street—Main to Chestnut.

A rough estimate of the money required to pave the above streets is $180,000. This list by no means contains all the streets in the city which should be paved, but in my judgment they are streets which should be considered first.

STREET CLEANING.

The methods used in street cleaning have on the whole been very satisfactory. I am confident our streets could be kept cleaner if more care was exercised by citizens in keeping private alleys and yards free from papers and rubbish.

STREET WATERING AND DUST LAYING.

A good asphaltic surface has been maintained on most of the residential streets by use of an asphalt oil. With our new automobile oiling truck the department will be better equipped to apply oil the coming season, and I believe the street watering bills can be somewhat reduced.

The oiling of country roads has not only been very satisfactory to the residents along these roads and to those using them, but has proved very beneficial to the roads and has greatly reduced the cost of maintenance. More of our country roads should be oiled the coming season.

We have at present about one hundred miles of streets under the street watering act.

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ASHES AND GARBAGE COLLECTION.

An incinerator has been installed at our South-end yard, to burn papers and light rubbish. This I am confident will prove a good investment, as it will enable us to burn much material which has been dumped with the ashes and which has been a source of great annoyance. An incinerator should be built at the north end of the city soon.

The city is under contract with the Merg Engineering Company to deliver all garbage to the new plant on State street, on or before February 15, 1913. This undoubtedly will provide a most satisfactory method of disposing of the garbage.

CITY YARDS.

I would advise that our yard on Logan street be sold and other property acquired for yard purposes.

A large combination shed, storage, room and workshop should be built at our Summer street yard.

A new and up-to-date steam roller house should be built, also a new barn at the South-end yard, as the present one is a disgrace to the department.

ACKNOWLEDGMENTS.

In bringing to a close this report, I desire to extend thanks to the clerical force of this department and to the foremen and men. Finally I desire to thank Mayor Edward H. Lathrop, Alderman Edward S. Goldthwaite, and Councilman Charles A. Allbe, members of the Board of Supervisors of Highways and Bridges, for their co-operation and courtesies extended to me during the year.

Respectfully submitted,

A. H. WOODWARD,

Acting Superintendent of Streets.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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MACADAM REPLACED BY PAVING.

		Length in feet.	Area in sq. yds.
Chestnut street,	Bridge street to Pearl,	201	952
East Court street.	Market street to Dwight,	369	855
North Main street,	Grove street to Thomas,	691	2,536
Sanford street,	Market street to Dwight,	367	1,278
State street,	Highland Div. N. Y. N. H. & H. R. R. to Amaron street,	1,106	4,271
Willow street,		895	2,493
		3,629	12,385

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TABLE OF MACADAMIZED STREETS.

*Includes Macadam laid by Spfd. Street Ry. Co.
**Macadam laid by Spfd. Street Ry. Co.
†Macadam laid by private parties.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Abbe ave. bridge app.,		872	2,325
Acushnet avenue,		1,068	3,385
Adams street,		1,003	3,326
†Agawam street,	Pecousic avenue to South st.,	230	383
Alden street,		2,776	*9,306
Alexander street,		414	1,380
Alfred street,		490	1,635
Allen street,	Mill street to N. E. R. R.,	4,017	*13,798
Allendale street,		663	2,094
Amaron street, Tarine,		408	1,475
Amherst street,	Harvard to Monmouth,	1,233	4,069
Andrew street,	State to Dawes,	1,323	4,228
Arbor street,		437	1,222
Arch street,	Main street westerly,	410	1,366
Armory street,	Federal st. to Warwick ave.,	2,305	7,688
Armory street,	Liberty to Carew,	1,570	5,203
Ashley street,		1,378	4,592
Auburn street,		787	1,942
Autumn street,		197	504
Avon place,		644	2,538
†Avon place,		67	386
Bancroft street,		1,435	4,865
Banks place,		225	536
Bay street,	St. James ave. to Cambridge street,	4,469	*14,853
Beaumont street,	Dickinson st. to Belmont ave.,	689	2,295
Beech street,		528	1,303
Beechwood street,	Sumner ave. to Spruceland st.,	501	1,670
Belmont avenue,	Woodside ave. to Oakland st.,	2,599	7,043
Belmont avenue,	Oakland st. to Sumner ave., easterly side,		**1,905

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Belmont avenue,	South side, Garfield street to Sumner avenue,	1,624	4,170
Belmont avenue, Texas penetration,	Sumner avenue to White st.,	3,634	19,434
Berkeley street,		453	1,510
Berkshire street,	State to Oak, I. O.,		**31,291
Berkshire street,	Oak to Chestnut, I. O.,	1,400	6,533
Birnie avenue,	Greenwich st. to Wason ave.,	3,369	8,077
Bliss street,	Main street to N. Y., N. H. & H. R. R.,	1,229	3,956
Bond street,		1,629	5,112
Bowdoin street,	St. James avenue to Ingersoll grove,	1,944	6,477
Bowles street,	Bay to McKnight,	750	2,500
Boylston street,		864	1,921
Bradford street,		862	2,935
Broad street,		959	3,177
Brookline avenue,		615	2,050
Buckingham place,		275	916
Buckingham street,		2,006	6,678
Butler street,		1,525	2,885
Byers street,	State to Frost,	480	1,193
Carew street,	Main to point near Bartlett,	2,618	7,672
Calhoun street,		1,129	3,435
Cass street,	Liberty to Butler,	1,762	5,407
Catharine street,	Bay to Dartmouth,	150	493
Cedar street,		1,962	6,655
Central street,		4,903	12,832
Central street,	Cedar to Mill,		**2,705
†Chapin terrace,	Chestnut to Marvin,	601	3,112
Charles street, Endurite,	Liberty to Franklin,	626	1,940
Chase avenue,		583	1,948
Cherryvale avenue,		687	2,290

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Chestnut street,	State to Harrison ave., and Jefferson avenue to Springfield street,	3,906	7,514
Chestnut street, Endurite,	Harrison avenue to Pearl st.,	281	2,630
	Bridge st. to Worthington,	441	
Chestnut street,	Allendale to Springfield,		**2,908
Church street,		832	2,553
Churchill street,		575	1,919
Clark street,		619	1,100
Clarendon street,	Bay to 200 feet north of Worthington,	1,452	4,834
Clarendon street, Trinidad,	extension to Dartmouth ter.,	140	1,204
Clinton street,		703	1,842
College street,		527	1,522
Congress street,		1,550	3,918
Cornell street, Trinidad,		1,283	4,275
Cross street,	Willow to Maple,	608	1,416
Crystal avenue,		930	3,100
Cumberland street, Tarine,	Main to North,	372	1,240
Cumberland street,	North to Chestnut,	426	1,420
Dale street,		812	2,051
Dartmouth street,		1,132	5,159
Dartmouth terrace, Trinidad,		488	2,544
Demond avenue,		859	2,863
Dickinson street,	Marengo park to Sumner ave.,	3,074	8,540
Donald street, Tarite,		444	1,480
Dorchester street,		567	1,887
Douglas street,		540	1,800
Eagle street,		556	1,855
East Hooker street,		679	1,786

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Eastern avenue,		4,516	*15,297
Edwards street,		675	2,219
Elliot street,		1,007	3,342
Elm street,	N. Y., N. H. & H. R. R. to Court Square,	818	2,089
Elmwood street,		886	2,738
Emery street,		648	2,106
Essex street,		1,606	5,143
Euclid avenue,		1,169	3,896
Everett street,		1,500	4,859
Fairfield street,		882	2,940
Farnsworth street,	Width of 20 feet,	513	1,710
Federal street,	Pearl to Worthington,	353	1,370
Firglade avenue,		1,049	3,490
Fisk avenue,		1,682	6,240
Florentine gardens,		706	3,501
Florence street,	Walnut to Pine,	1,582	5,273
Florida street,	Bay to Ingersoll grove,	2,192	6,868
Forest street,		784	2,502
Forest Park avenue,	Sumner avenue to Forest st.,	752	3,846
Forest Park avenue,	Fort Pleasant ave. to Forest street, 22½ feet in width,	1,760	4,475
Fort Pleasant avenue,	west side,	2,794	10,138
Fort Pleasant avenue,	east side,	2,674	7,252
Franklin street,	Main to Webster,	3,613	12,386
Franklin street,	Webster to Genesee, width of 20 feet,	1,139	3,797
Fremont street,		778	2,593
Fulton street,	Plainfield to Vine,	2,444	8,087
Gardner street,	Water to Main,	1,114	3,713
Garfield street,		1,577	5,220
Genesee street,	width of 20 feet,	276	821
George street,	Maple easterly,	110	647
Grace street,		354	885
Grant street,		577	1,603
Gray's avenue,		560	1,300

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Greene street,		1,347	4,490
Greenleaf street,		740	3,098
Greenwich street,	North Main to Becket,	643	2,143
Greenwood street,		1,561	5,025
Grove street,		612	1,734
Grosvenor street,		738	2,286
Hall street,		992	3,307
Hamburg street,	width of 20 feet,	574	1,786
Hancock street,	Clark to State,	3,989	*13,479
Harriet street,		816	2,720
Harvard street,	Yale to Cornell,	1,565	5,206
Hawthorne street,		540	1,374
Hebron street,		698	2,204
Heywood street,	Liberty to Warwick ave.,	250	833
Hickory street,	Walnut to Sheffield st., and Alden street easterly,	4,710	11,589
High street,		2,563	5,544
Holyoke street,		776	2,001
Homer street,		582	1,940
Howard street,	N. Y., N. H. & H. R. R. to Main,	1,277	4,326
Hubbard avenue,		568	1,063
†Huntington street,		643	2,143
Ingersoll grove,	Worthington st. to Bowdoin,	1,395	4,650
Ingraham avenue,		258	462
James street,		928	2,356
Jefferson avenue,		1,275	6,375
John street,		640	2,136
Keith street,		1,107	3,690
Kenwood park,		721	3,888
Kibbe avenue,		213	710
King street,	Walnut to Highland division N. Y., N. H. & H. R. R.,	2,568	*8,484
Lafayette street,		568	1,865
Lebanon street,		1,926	5,233
Lexington avenue,		622	1,659

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Leyfred terrace,		625	2,102
Liberty street,	Main street easterly, and Wolcott to Carew,	3,497	8,285
Liberty street,	Heywood avenue to Chicopee line,		**9,920
Lillian street,		387	989
Linden street,		1,287	5,148
Litchfield street,		384	1,280
Locust street,	Main to Mill,	793	2,501
Locust street, Tarine,	Belmont ave. to Dickinson st.,	2,495	7,682
Lombard street,		590	1,677
Longhill street,	Sumner ave. to Warner place,	475	2,321
Longhill street,	Sumner ave. to Washington boulevard,	1,741	6,837
†Longmeadow street,	Longhill street to Longmeadow line,	2,930	7,813
Loring street,		707	2,294
Lowell street,		1,390	4,633
Madison avenue,		529	1,657
Magazine street,	Lincoln to Armory,	734	2,434
Magnolia terrace,	Sumner ave. to Pineywoods ave.,	1,141	6,209
Main street,	Mill river to Locust street,	980	5,864
Main street, I. O.,	Front to Parker,	5,563	19,691
Main street, I. O.,	Front st. to Ludlow bridge,		**11,127
Maple street,	top of hill to George street,	1,565	4,572
Mapledell street,		972	3,239
Maplewood terrace,	south side, Fort Pleasant ave. to Forest Park avenue,	1,301	3,075
Maplewood terrace,	north side, Forest Park ave. to Riverview terrace,		1,874
Marble street,		1,074	3,508
Marengo park,		1,869	6,230
Margaret street,	Water to Main,	842	2,807

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Mason street, Texas penetration,		661	2,203
Massasoit street,	Carew to Prospect,	851	2,803
Massasoit street, Tarine,	Prospect street to 143′ north of Montmorenci,	1,148	3,827
Massasoit street,	Chapin terrace to Pratt st.,	430	1,440
Mattoon street,		524	1,775
McKnight street,	Sherman to Bowles,	532	1,773
Medford street,	N. Main st. to Birnie ave.,	624	2,080
Merwin street,		713	2,377
Mill street,	Main to Dickinson,	3,250	13,564
Monmouth street,		1,168	4,000
Monroe street,	Hancock to Eastern avenue,	1,345	3,736
Montmorenci street,		620	2,067
Montrose street, Tarine,		973	3,242
Morgan street,		852	2,914
Morris street,		1,022	3,031
Mountainview street,		682	2,380
Mulberry street,	Maple to Union,	2,015	5,706
Murray Hill avenue,		600	2,000
Myrtle street,		484	997
North street,	Liberty to Cumberland,	5,729	19,944
Northampton avenue,	Wilbraham road to Beverly street,	1,229	4,096
North Main street,	Thomas to Chicopee line,	3,203	‡17,728
Norwood street,		1,117	2,911
Oak street, Endurite,		1,356	4,462
Oak street, I. O.,	Berkshire to Water,	1,457	5,731
Oak street, I. O.,	Berkshire to Main,		**2,078
Oakland street,	Allen to Sumner avenue,	4,153	14,808
Olive street,		478	1,248
Orchard street,		1,040	3,467
Orleans street,		1,509	4,293

‡Includes car tracks, Grove street to Thomas.

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Osgood street,		890	2,948
Palmer avenue,		991	3,177
Park street,	Main to Willow and foot of hill to Maple,	865	2,545
Parkwood street,		450	1,500
Patton street,		1,631	5,438
Pearl street, Endurite,	Chestnut to Spring,	983	2,817
Pearl street,	Spring to Byers,	237	696
Pecousic avenue,	Gardner street to Mill River bridge,	1,925	5,775
Pecousic avenue,	Mill River bridge to Main street,	350	972
Pecousic avenue,	Main street to Longhill,	3,625	10,663
Pendleton avenue,		2,582	6,545
Pine street,		4,420	14,344
Pineywoods avenue,	Washington road to Florentine gardens,	1,273	4,243
Plainfield street,	B. & M. R. R. bridge to Wason avenue,	5,395	14,716
Plainfield street,	Washburn to Wason avenue,		**3,953
Pleasant street,	*	428	1,026
Plymouth street,		479	1,597
Portland street,	N. Main to Birnie avenue,	610	2,033
†Pratt street,	Chestnut to Marvin,	600	2,000
Princeton street,	Bay to St. James avenue,	1,509	6,329
Princeton street,	Bay to St. James avenue,		**1,496
Princeton street, Trinidad,	St. James ave. to Cornell st.,	267	890
Prospect street,	Massasoit to Carew,	817	2,996
Quincy street,	Oak to Eastern avenue,	2,704	7,780
Randolph street,	Sumner ave. to Forest Park avenue,	916	3,053
Reed street,		660	2,493
Ridgewood place,		537	1,193
Ringgold street,		730	2,432

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Riverview street,		625	2,094
Riverview terrace,		281	721
Rowland avenue,	Plainfield street to Abbe ave. bridge approach,	690	1,674
Rutland street,		277	926
Rutledge avenue,		516	1,599
Salem street,	Mattoon to Spring,	522	1,426
Sargeant street,		860	3,126
School street,		1,415	4,597
Seventh street,		822	2,529
Sharon street,		1,200	3,895
Sheldon street,	Birnie avenue to N. Main,	651	2,027
Sherman street,	State to Clarendon,	1,623	5,394
South street,	Agawam street to Mill river,	1,863	6,878
Spring street,		2,373	7,322
Springfield street,	Chicopee line southwesterly,	3,700	7,400
Springfield street,	Chestnut street northeasterly,	400	1,355
Springfield street,	Chestnut to dingle, and Hamburg street to Chicopee line,		**1,242
Spruce street,		699	1,737
Spruceland avenue,		1,370	4,566
State street,	Water st. easterly, City Library to Federal, Westminster st. to Sherman, and Amaron st. to Berkshire avenue,	15,475	‖53,098
Stearns square,	east of park,	259	461
Stebbins street,	State to Quincy,	973	3,243
St. James avenue,	State to Highland division N. Y., N. H. & H. R. R.,	5,470	15,557
St. James avenue,	State to end of track,		**5,213
St. James circle,	St. James avenue to Jennette avenue,	1,131	1,509

‖ Includes car tracks, Stebbins street to Westminster, N. Y., N. H., & H. R. R. to Amaron street, and both sides from curb to 10′ from outside rails from Oak to Stebbins street.

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Stockbridge street,		635	1,617
Summer street,	Federal to Armory,	378	1,260
Sumner avenue,	Longhill street to Forest Park entrance,	3,219	15,227
Sumner avenue,	Park entrance to Lenox street, southerly side,	1,700	3,820
Sumner avenue, Bermudez penetration,	Park entrance to Lenox street, northerly side,	1,700	4,236
Sumner avenue,	Lenox st. to east line Dickinson street,	484	4,254
Sumner avenue, Bermudez penetration,	90′ west of Ventura to White street,	2,090	13,460
Sumner avenue,	Longhill to 90′ west of Ventura street,		**9,489
Taylor street,		413	1,810
Temple street,		953	2,570
Tenth street,		1,577	4,451
Terrence street,		714	2,380
Thomas street,		583	1,945
Thompson street,		2,093	6,606
Tyler street,	Oak to Hancock,	1,346	4,002
Union street,	N. Y., N. H. & H. R. R. to ft. of hill, Maple to Eastern ave.,	7,440	25,077
Vine street,		745	1,892
Vinton street,		612	2,465
Walnut street,	Mill to Hancock,	1,457	*2,341
Walter street, Tarine,		390	1,300
Waltham avenue,		985	2,628
Warner place,		691	2,152
Warriner avenue,		450	1,601
Warwick street,	Heywood street easterly,	811	2,703

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Washburn street,		1,400	4,667
Washington road,	Maplewood terrace to Piney-woods avenue,	1,083	3,610
Wason avenue,	B. & M. R. R. to N. Main st.,	505	1,718
Wason avenue,	B. & M. R. R. to N. Main st.,		**449
Water street,		5,145	16,525
Waverly street,		850	2,910
Webster street,		606	2,020
Wellesley street, Trinidad,		444	1,480
West street,		1,195	3,872
Westernview street,		650	2,167
Westford avenue,		1,380	6,133
Westminster street,		1,911	6,388
White street,	Allen to Longmeadow line,	8,288	19,446
White street,	Orange to Sumner avenue, and Belmont avenue to Longmeadow line,		**3,774
Wight place,		388	692
Wilbraham avenue,		2,046	6,820
Wilbraham road,	State to Homer,	2,579	11,427
Wilbraham road,	southerly side, Homer to Benton,	2,600	5,142
Wilbraham road,	Westford avenue to point 660 ft. east of Benton street,		**3,682
Wilcox street,	Main to 385 ft. westerly from Water,	1,307	4,000
William street,	N. Y., N. H. & H. R. R. to Main,	1,368	4,359
Winthrop street,		659	2,397
Woodside terrace,	Belmont ave. to Forest Park ave.,	463	1,543
Woodside terrace,	Belmont avenue easterly,	474	1,580
Worcester street, I. O.,	Pine to Fiberloid Co.'s drive-way, 18 ft. in width,	4,994	10,988
Worthington street,	Spring street easterly,	1,259	4,197

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TABLE OF MACADAMIZED STREETS.—CONTINUED.

NAME OF STREETS.	Limits.	Length in feet.	Area in sq. yds.
Worthington street,	Sackett's pl. to Federal st.,	1,121	2,861
Worthington street,	Armory st. to St. James ave.,	2,514	7,961
Yale street,	Dartmouth to Monmouth,	1,493	5,142
York street,		1,000	2,997
Total,	77.383 miles.	408,581	1,405,491

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MACADAM RECAPITULATION.

	Length in feet.	Length in miles.	Area in square yards.
Bermudez penetration,	3,790	.718	17,696
Endurite,	3,687	.698	11,849
Tarine penetration,	5,786	1.096	18,766
Tarite penetration,	444	.084	1,480
Texas penetration,	4,295	.813	21,637
Trinidad surface,	2,622	.497	10,398
Water bound,	387,957	73.477	1,323,670
	408,581	77.383	1,405,491

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Barnes street,		Bitulithic,	178	552	1909
Belmont avenue,	At Locust and Mill streets,	Mack blocks,		133	1912
Belmont avenue,	Hall street westerly,	Catskill blocks,	1,362	1,211	1901
Belmont avenue,	Hall street to Oakland,	Metropolitan blocks,	1,023	914	1903
Birnie avenue,	Hooker street northerly,	Johnsonburg blocks,	145	483	1906
Bridge street,	Main to Dwight,	Rock asphalt,	688	2,525	1900
Bridge street,	Dwight to Chestnut,	Creo-resinate wood bl'ks. 3″ x 3½″ x 8″,	122	446	1910
		Asphalt blocks, 5″ x 12 ″ x 3″,	195	712	1910
Bridge street,	Main street, 493 feet westerly,	Bitulithic,	493	1,746	1905
Bridge street,	extension to Water street,	Bitulithic,	252	895	1911
Bridge street,	Water street to Old Toll bridge,	Granite blocks,	249	713	1907
Catharine street,	State to Bay,	Syracuse brick,	1,722	5,691	1900
Charles street,	Liberty to land of B. & A. R. R.,	Granite blocks,	150	376	1903
Chestnut street,	Pearl to Bridge,	Bitulithic,	201	952	1912
Chestnut street,	Worthington to Lyman,	Granite blocks,	472	1,673	1895
Chestnut street,	Lyman to B. & A. R. R.,	Granite blocks,	256	1,471	1889
Chestnut street,	B. & A. R. R. to Linden,	Granite blocks,	1,640	5,235	1892
Chestnut street,	Linden to Everett,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	419	1,438	1909

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Chestnut street,	Everett to Carew,	Granite blocks,	354	718	1893
Chestnut street,	Carew to Allendale,	Syracuse brick,	1,015	3,432	1900
Chestnut street,	Allendale to Jefferson avenue,	Bitulithic,	825	2,898	1905
Court street,	Main to Court Square avenue,	Rock asphalt,	317	1,149	1897
		Syracuse brick,	——	174	1897
		Syracuse brick,	——	128	1907
Court street,	Court Square avenue to Water st.,	Bitulithic,	617	2,699	1911
Court Square avenue,	Court to Elm,	Rock asphalt,	193	508	1897
		Syracuse brick,	——	330	1897
Cypress street,	Main street westerly,	Granite blocks,	459	1,700	1904
Cypress street,	Boylston to Fulton,	Granite blocks,	216	848	1905
Dwight street,	State to Lyman,	Syracuse brick,	2,324	9,905	1896
East Court street,	Main to Market,	Rock asphalt,	117	297	1900
East Court street,	Market to Dwight	Creo-resinate wood bl'ks, 3″x3½″x6″ to 10″,	372	941	1912
Elm street,	Main to Court Square avenue,	Rock asphalt,	343	949	1897
		Syracuse brick,	——	330	1897
Ferry street,	Main street to foot of hill,	Bitulithic,	1,389	3,597	1910
Fort street,	Main to Water,	Granite blocks,	670	1,770	1895
Fulton street,	Cypress to Vine,	Granite blocks,	1,125	3,006	1906

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Hampden street,	Main street westerly,	Bitulithic,	212	821	1904
Hampden street,	completion Main to Water,	Bitulithic,	394	1,539	1905
Harrison avenue,	Main to Dwight,	Trinidad asphalt,	586	2,247	1896
Hillman street,	Main to Dwight,	Bitulithic,	648	2,025	1906
King street,	St. Ry. turnout,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	317	1,023	1908
Liberty street,	Main street, easterly,	Bitulithic,	311	1,335	1911
Liberty street,	Chestnut to Cass,	Syracuse brick,	1,399	4,571	1900
Liberty street,	Cass to Heywood avenue,	Syracuse brick,	1,147	3,971	1901
Lyman street,	Main to Chestnut,	Granite blocks,	1,305	4,599	1889
Lyman street,	Chestnut street, easterly,	Granite blocks,	503	2,095	1908
Lyman street,	extension easterly to Spring st.,	Granite blocks,	228	949	1909
Main street,	Locust to Marble,	Syracuse brick,	840	4,381	1897
Main street,	Marble to William,	Syracuse brick,	1,762	8,307	1896
Main street,	William to Bliss,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	1,150	6,460	1906
Main street,	Bliss to State,	Syracuse brick,	241	1,355	1893
Main street,	State to Worthington,	Creo-resinate wood bl'ks, 3″ x 3½″ x 8″,	1,899	10,798	1904
Main street,	Worthington to Hampden, west side,	Creo-resinate wood bl'ks, 3″ x 3½″ x 8″,	382	1,183	1901

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Main street,	Worthington to Hampden, east side,	Creo-resinate wood bl'ks. 4″ x 4″ x 8″,	——	962	1903
Main street,	Hampden to Lyman,	Creo-resinate wood bl'ks, 4″ x 4″ x 8″,	158	775	1903
Main street,	Lyman to Liberty,	Creo-resinate grooved wood bl'ks, 4″ x 4″ x 8″,	484	2,780	1903
Main street,	Liberty to Sharon, east side,	Creo-resinate wood bl'ks, 4″ x 4″ x 8″,	453	1,135	1903
Main street,	Liberty to Sharon, west side,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	——	1,487	1907
Main street,	Sharon to near Franklin and Emery,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	509	3,103	1907
Main street,	near Franklin, east side,	Syracuse brick,	36	144	1907
Main street,	Franklin to Carew, east side,	Syracuse brick,	1,302	4,605	1897
Main street,	Emery to Sargeant, west side,	Catskill blocks,	1,447	5,449	1901
Main street,	crossing opposite Auburn street,	Catskill and Metropolitan blocks,	——	163	1903
Maple street,	Central to High,	Bitulithic,	1,563	5,665	1904
Maple street,	High to State,	Bitulithic,	593	2,530	1905
Market street,	State to Harrison avenue,	Bitulithic,	968	1,887	1906
North Main street,	Plainfield to Morgan,	Bitulithic,	730	4,485	1906

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
North Main street,	Morgan to Bancroft,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	879	4,544	1909
North Main street,	Bancroft to Calhoun,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	839	4,210	1910
North Main street,	Calhoun to Grove,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	673	3,466	1911
North Main street,	Grove to Thomas,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	691	2,536	1912
North Main street,	at Wason avenue,	Syracuse brick,	——	196	1908
Plainfield street,	Sargeant to Fulton,	Syracuse brick,	1,710	10,249	1902
Pynchon street,	Main to Water,	Bitulithic,	870	2,866	1911
Railroad street,	Main to Water,	Granite blocks,	516	1,539	1906
Sanford street,	Main to Market,	Rock asphalt,	102	207	1900
Sanford street,	Market to Dwight,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	371	1,324	1912
State street,	Main street, westerly,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	598	2,357	1909
State street,	Main to Dwight,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	478	2,403	1908
State street,	Dwight to City Library,	Granite blocks,	541	1,631	1890
State street,	Dwight to Chestnut (widened),	Granite blocks,	——	217	1896
State street,	Federal to Oak,	Syracuse brick,	847	4,590	1897

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
State street,	Oak to Stebbins,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	762	3,031	1909
State street,	Pleasant to Terrence,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	386	1,497	1910
State street,	Terrence to Westminster,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	639	3,256	1911
State street,	at Walnut,	Syracuse brick,	——	278	1908
State street,	at St. James avenue,	Syracuse brick,	——	183	1907
State street,	Sherman to Highland Div., N. Y., N. H. & H. R. R.,	Bitulithic,	820	4,352	1905
State street,	Highland Div., N. Y., N. H. & H. R. R., to Amaron street,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	1,106	4,271	1912
Summer street,	Spring to near Autumn,	Granite blocks,	567	1,512	1907
Summer street,	Autumn to Kibbe avenue,	Granite blocks,	1,259	4,029	1895
Summer street,	Kibbe avenue to point 85′ west of Federal,	Granite blocks,	787	2,635	1901
Taylor street,	Main to Dwight,	Bitulithic,	770	2,580	1904
Townsley avenue,		Bitulithic,	142	214	1908
Vernon street,		Bitulithic,	821	2,047	1911
Walnut street,	State to Union,	Syracuse brick,	638	2,144	1899
Walnut street,	Union to Pendleton avenue,	Syracuse brick,	873	3,140	1900

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Walnut street,	Pendleton ave. to Lebanon st.,	Bitulithic,	1,195	3,888	1905
Walnut street,	Lebanon to Hancock,	Bitulithic,	1,005	3,334	1906
Walnut street,	at Ashley,	Bitulithic,	——	44	1911
White street,	Allen to Orange,	Syracuse brick,	1,610	2,400	1902
Willow street,		Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	1,189	3,443	1912
Worthington street,	Main to Dwight,	Syracuse brick,	739	2,544	1896
Worthington street,	Dwight to Fairbanks place,	Syracuse brick,	1,060	3,869	1901
Worthington street,	Fairbanks place to east line of Spring,	Syracuse brick,	269	1,003	1903
Worthington street,	Main to Broadway,	Bitulithic,	404	1,418	1905
Worthington street,	Broadway to Water street,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	299	1,061	1909
Worthington street,	at Sackett place,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	265	886	1908
Worthington street,	Federal to Armory.	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	374	1,312	1908
Total,			68,559	258,075	

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RECAPITULATION.

Material.	Length in feet.	Length in miles.	Area in sq. yds.	Material.	Length in feet.	Length in miles.	Area in sq. yds.
				Mack blocks,			133
Bitulithic,	15,401	2.917	54,369	Metropolitan blocks,	1,023	.194	996
Catskill blocks,	2,809	.532	6,741	Rock asphalt,	1,760	.333	5,630
Creo-resinate wood blocks,	15,809	2.994	72,128	Syracuse brick,	19,534	3.7	77,920
Granite blocks,	11,297	2.140	36,716	Trinidad asphalt,	586	.111	2,247
Johnsonburg blocks,	145	.027	483	Asphalt blocks,	195	.037	712
				Total,	68,559	12.985	258,075

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FORTY-FOURTH ANNUAL REPORT

OF THE

SEWER DEPARTMENT.

SPRINGFIELD, MASS., December 28, 1912.

To the Mayor and Board of Aldermen:—

I have the honor of presenting statements of receipts and expenditures of the Sewer Department, and descriptions of work done during the fiscal year ending December 1, 1912.

RECEIPTS.

SEWERS AND DRAINS.

Appropriation,	$60,700.00	
Transfers, from other departments,	1,027.22	
		$61,727.22

EXPENDITURES.

Building private drains,	$5,014.93
City teams and automobile, uncredited balance,	1,258.60
City yard,	1,355.64
Engineering,	489.41
Foremen's winter and holiday pay,	173.25
Office and general expenses,	1,249.16
Refunds on account of fees for sewer entrances,	185.16
Amount carried forward,	$9,726.15

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Amount brought forward,	$9,726.15	
Refunds—unexpended balances on deposits for building private drains,	423.27	
Salary of assistant superintendent,	2,000.00	
Sewers — Cleaning,	2,231.61	
Sewers — Construction,	39,908.11	
Sewers — Flushing,	2,149.99	
Sewers — Repairs,	1,072.59	
Supplies,	172.32	
Tools,	749.23	
Work and material charged to departments and private parties,	1,646.38	
	$60,079.65	
Credit by material used 1912 and paid for 1913,	595.52	
	$59,484.13	
Unexpended balance,	2,243.09	
		$61,727.22

BILLS RECEIVABLE.

Bills receivable, November 30, 1911,	$399.52	
Bills committed, fiscal year 1912	37,154.49	
		$37,554.01
Bills paid, fiscal year 1912,	$30,142.55	
Abatements,	1,495.36	
		31,637.91
Bills receivable, November 30, 1912,		$5,916.10

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SEWER CONSTRUCTION CLASSIFIED.

VITRIFIED CLAY PIPE.

SIZES.	LENGTH IN FEET.		Total Length.
	New Construction.	Reconstruction.	
10″	7,723′		7,723′
12″	4,408′	383′	4,791′
15″	2,815′	411′	3,226′
18″	3,216′	300′	3,516′
20″	862′	641′	1,503′
24″	4,016′	1,204′	5,220′
Total	23,040′	2,939′	25,979′

CONCRETE.

SIZES.	LENGTH IN FEET.		Total Length.
	New Construction.	Reconstruction.	
2′-8″x4′-0″ elliptical.....	374′	.....	374′

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SEWER CONSTRUCTION AND RECONSTRUCTION.

DESCRIPTIONS AND COSTS—FISCAL YEAR 1912.

LOCATION.	Material.	Length in Feet.	Size.	Cost.
Albemarle avenue, Wilbraham road southerly	Clay	300 314 421	15″ 12″ 10″	$971 81
Amaron street, flush gate		....	....	15 88
Armory street, manholes		....	....	96 92
Atwater terrace, Springfield street northerly	Clay	1020	18″	1,448 06
Beech street, manhole		....	....	28 79
Belvidere avenue, Belmont avenue southerly	Clay	300 201	20″ 18″	824 37
Biltmore street, Dickinson street to Trafton road	Clay	350 349 351	15″ 12″ 10″	866 51
Birnie avenue extension, Arch street southerly	Clay	445	10″	....
Blaine street, White to Greenbrier street	Clay	118	24″	268 98
Cedar street, manhole		....	....	35 77
Centre street, I. O., manhole		....	....	35 85
Chilson street, Sumner avenue southerly	Clay	226	10″	153 57
Concord terrace, flush gate		....	....	26 08
Crane street, Franklin street northerly	Clay	299	10″	331 87
Daviston avenue, Allen street southerly	Clay	1102	10″	796 55
Dawson avenue, manhole		....	....	22 48
Dexter street, manhole		....	....	37 62

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SEWER CONSTRUCTION AND RECONSTRUCTION.—CONTINUED.

LOCATION.	Material.	Length in Feet.	Size.	Cost.
Dunmoreland avenue, Wilbraham road southerly	Clay	301 200	15″ 12″	$604 37
East Alvord street, West Alvord to Daviston avenue	Clay	495 598	18″ 12″	956 64
Eddywood avenue, Sumner avenue northerly	Clay	328	10″	436 66
Franklin street, Webster street to Mutray Hill avenue, extension	Clay	260	10″	342 29
Goodrich street, Liberty street northerly	Clay	240	10″	460 87
Greenbrier street, Larkspur to Blaine street	Clay	570	10″	291 24
Hancock street, manholes		....	....	143 88
Hancock street, flush gate		....	....	20 80
Ingersoll grove, Florida street easterly, completion		....	....	19 83
Knox street, Smith to Windsor street, relaying	Clay	866	24″	1,988 46
Larkspur street, White street easterly	Clay	299 304 101	15″ 12″ 10″	484 95
Logan street, flush gate		....	....	21 56
Lowell street, at Connecticut River	Clay	70	12″	77 03
Main street, Locust to Mill street, completion		....	....	116 49
Mapledell street, extension northerly to Burr street	Clay	42	10″	62 54
Marlboro avenue, State street to Wilbraham road	Clay	300 449	12″ 10″	537 09

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SEWER CONSTRUCTION AND RECONSTRUCTION.—CONTINUED.

LOCATION.	Material.	Length in Feet.	Size.	Cost.
Moore avenue, Plainfield street westerly	Clay	299 435	12″ 10″	$580 07
Mulberry street, Maple to Schoo street, completion		....	....	12 37
North Main street, southerly from Osgood street, completion		....	....	7 81
Oak street, Walnut to Tyler street, completion		....	....	42 89
Oak Grove avenue, extension northerly and southerly	Clay	404	10″	183 92
Orange street, manholes		....	....	55 75
Osgood street, Garden Brook sewer to North street, relaying	Clay	340 340	24″ 20″	2,055 99
Page boulevard, St. James avenue northerly, incomplete	Clay	3,282	24″	9,894 55
Plainfield street, flush gate		....	....	24 09
Plainfield street, Sanderson terrace southerly, extension, completion	Clay	151 208	24″ 15″	883 78
Prospect street, Massasoit street easterly, completion		....	....	75 86
Ranney street, Johnson street northerly	Clay	301 264	12″ 10″	426 13
Ranney street, Wilmont street southerly	Clay	85	10″	96 04
Sharon street, Garden Brook sewer easterly, relaying	Clay	301 300 231 232	20″ 18″ 15″ 12″	2,355 50
Sharon street, Garden Brook sewer westerly, relaying	Clay	180 151	15″ 12″	883 30

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SEWER CONSTRUCTION AND RECONSTRUCTION.—CONTINUED.

LOCATION.	Material.	Length in Feet.	Size.	Cost.
State street, flush gate		....	....	$28 94
St. James avenue, Chicopee road to Page boulevard	Clay	127	24″	396 52
Sullivan street, manhole		....	....	40 41
Sylvan avenue, Belmont avenue southerly	Clay	294 251 249	20″ 18″ 15″	1,136 42
Taylor street, Main to Dwight street, completion		....	....	80 29
Trafton road, Dickinson street westerly	Clay	351 460 140	18″ 15″ 12″	923 68
Trillium street, White street to Greenbrier	Clay	345	10″	216 74
Trinity terrace, Sumner avenue southerly	Clay	300 416	12″ 10″	533 91
Virginia street, Dickinson street to Trafton road	Clay	348 301 344	15″ 12″ 10″	731 42
Walnut court, Walnut street westerly	Clay	211	10″	188 15
Waltham avenue, flush gate		....	....	24 77
West Alvord street, Sumner avenue to Daviston avenue	Clay	153 268 550 300 412	24″ 20″ 18″ 15″ 12″	1,546 17
White street, Belmont avenue to Eleanor road	Concrete	374	2′-8″x4′-0″ elliptical	1,854 18
White street, Belmont avenue to Trillium street	Clay	283 191 210	24″ 12″ 10″	1,008 39

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SEWER CONSTRUCTION AND RECONSTRUCTION.—CONTINUED.

LOCATION.	Material.	Length in Feet.	Size.	Cost.
White street, Longfellow terrace to Trillium street, extension.....	Clay	166 329	18″ 12″	$581 74
Whiting street, Plainfield street westerly, incomplete.....	Clay	182	18″	238 85
Wight place, Water street easterly, extension.....	Clay	175	10″	240 47
Worcester street, manhole.....		....	....	33 25
		26,353		$39,908 11

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SEWERS ABANDONED—1912.

LOCATION.	Material.	Length in Feet.	Size.	Cost.
Knox street, Mill river to Windsor street	Cem.	880	15″	$113 58
Windsor street southerly	Clay	34	15″	47 88
Osgood street, Garden Brook sewer to North street	Cem. Clay	588 92	18″ 18″	1,436 19
Sharon street, Garden Brook sewer to Main street	Cem.	881	15″	700 40
Garden Brook sewer easterly	Cem. Cem.	601 463	18″ 12″	1,273 96
		2,989		$3,572 01

SUMMARY.

DESCRIPTION.	Length in Feet.	Cost.
Concrete sewer built by regular appropriation	374	$1,854 18
Clay pipe sewers built by regular appropriation	25,534	37,361 14
Flush gates and manholes built by regular appropriation		693 84
	25,908	$39,908 11
Clay pipe sewer built at expense of other Departments	445	
	26,353	$39,908 11
Sewers abandoned	2,989	3,572 01
Net addition to sewer system	23,414	$36,336 10

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SEWER CLEANING AND REPAIRS.

	COST OF	
	Cleaning.	Repairs.
Alden street,	$14 63	
Andrew street,	30 00	$3 63
Arbor street,		24 98
Biltmore street,		11 27
Burr street,	20 72	
Cass street,	13 03	
Cedar street,		12 59
Center street., I. O.,	22 30	
Clinton street, submerged outlet,	18 24	
College street,	20 31	
Columbia terrace,		13 80
Congress street,	70 88	
Cornell street,	14 94	3 31
Dawes street,		16 08
Dickinson street,	17 85	5 56
Eastern avenue,	44	23 84
Elm street, submerged outlet.	18 48	
Essex street, I. O.,	45 75	
Farnsworth street,		12 29
Firglade avenue,	11 44	
Florence street,	20 25	4 47
Garden Brook,	311 32	
Grace street,		33 59
Grant street,	11 44	4 34
Granville street,	24 38	
Greenleaf street,		16 10
Greenwood street,		15 11
Hampshire street,	63 25	
Ingersoll grove,	30 25	
Kibbe hollow,		94 97
Knox street,		67 53
Lebanon street,	28 25	8 47
Lowell street,	107 45	25 02
Magazine street,	34 32	

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SEWER CLEANING AND REPAIRS—CONTINUED.

	COST OF	
	Cleaning.	Repairs.
Main street,	$147 22	
Main street, I. O.,	48 55	$7 44
Manhattan street,	12 09	
Mapledell street,	48 12	3 26
Maplewood terrace,	12 75	
Marengo park,	30 50	18 48
Margaret street,		21 01
Marion street,		22 14
Middlesex street,	28 12	
Oak street, I. O.,	13 18	
Oak Grove avenue,	86 31	
Orange street,	17 34	5 41
Palmer avenue,	17 50	
Parker street, I. O.,	32 25	11 07
Parkwood street,		23 23
Pasco street, I. O.,	16 13	
Patton street,	19 06	
Pearl street,		12 01
Shattuck street,	35 31	
Sundry sewers, costing less than $10,	280 23	507 43
State street,	78 74	
Talcott street,		11 75
Union street,	35 83	
Vernon street,	12 50	
Vinton street,		15 83
Virginia street,		11 05
Waltham avenue,	61 88	
Washburn street,	17 25	
Water street,	24 78	2 79
Willard avenue,	52 69	
Willow street,	11 44	2 74
Worcester street, I. O.,	122 87	
Worthington street, submerged outlet,	19 05	
	$2,231 61	$1,072 59

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GENERAL DESCRIPTIONS.

The total expenditures for new sewer construction and reconstruction during the year amounted to $39,908.11. Deducting cost of sewers abandoned, amounting to $3,572.01, leaves $36,336.10 to be added to the value of the sewer system as of November 30, 1911.

The total value of our system on November 30, 1912, was accordingly $1,564,474.68 and embraces a total of 129.2 miles of sewers in the care of this department.

All sewer construction during the year has been done directly by this department.

SEWER FEES.

The receipts from entrance fees exclusive of the fees on account of building private drains amounted to $24,155.90 and the number of connections made to buildings during the year was 474.

PIPE SEWERS.

The length of pipe sewers laid during the year was 25,979 feet. As may be seen by reference to the table, this was distributed throughout the entire city, not only in the sections recently opened for residence purposes but also in the older sections, where it has become necessary to replace old sewers with those of larger capacity and improved materials.

TRUNK SEWERS.

A trunk sewer of Portland cement concrete has been built in White street, from Belmont avenue to Eleanor road.

Work was started this fall and is still in progress on a portion of the trunk sewer designed to drain that section of the city known as East Springfield, starting in at St. James

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avenue and extending through Page boulevard, some 3,400 feet being completed to date.

CEMENT PIPE SEWERS.

We have been able this last season to devote considerable time and money to the replacing of the old cement pipe sewers with modern construction, about 2,800 feet being relaid with vitrified clay pipe. There are still remaining some twenty-two miles of cement pipe sewers which should be replaced as rapidly as practicable, as they are a continual source of expense and danger.

ACKNOWLEDGMENTS.

It gives me pleasure to acknowledge the co-operation of the foremen and men, and also to thank Aldermen W. A. Dodge, John G. Maxfield, and Edward S. Goldthwaite, members of the Committee on Sewers and Drains, for the many courtesies extended to me.

Respectfully submitted,

HOWARD O. BUCK,

Acting Superintendent of Sewers.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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CITY OF SPRINGFIELD,

SEWER SYSTEM TABULATED TO DECEMBER 1, 1912.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Abbe ave., Fisk ave., westerly	301	15″	Clay	$497.38	
	275	12″	Clay		
	300	18″	Clay		
Plainfield st., westerly	300	15″	Clay	1,405.16	
	301	12″	Clay		
	200	10″	Clay		
					$1,902.54
*Acorn st., Sycamore to Edgewood st.	276	10″	Clay		176.64
Acushnet ave., Main st., easterly	294	20″	Clay		
	279	18″	Clay		298.94
	271	15″	Clay		
	26	12″	Clay		
Adams st., Main to Ashmun st.	294	20″	Clay		
	245	18″	Clay	3,267.83	
	323	15″	Clay		
	221	12″	Clay		
Richelieu st., westerly	237	12″	Clay	304.12	
					3,571.95
Albemarle st., Wilbraham road, southerly	300	15″	Clay		
	314	12″	Clay		971.81
	421	10″	Clay		
Alden st., Hancock st. to Eastern ave.	595	18″	Cem.	1,646.13	
	820	15″	Cem.		
Eastern ave. to Wilbraham ave.	895	15″	Clay	911.39	
Wilbraham ave. to Hickory st.	499	10″	Clay	250.86	
					2,808.38
Alderman st., Dickinson to Scott st.	296	18″	Clay		
	304	15″	Clay		1,148.99
	300	12″	Clay		
	443	10″	Clay		
Alexander st., North st., easterly	288	10″	Clay		188.48
Alfred st., Birnie ave., easterly	377	10″	Clay		.....
Allen ave., Allen st., easterly	338	10″	Clay		232.73
Allen st., Mill river to Oakland st.	216	24″	Clay	576.86	
Mill to Oakland st.	365	10″	Clay	447.19	
Oakland st. to Plumtree road	686	24″	Clay	1,832.06	
	383	18″	Clay		
	474	15″	Clay	1,701.91	
	580	12″	Clay		
	1,603	12″	Clay	950.46	
	1,401	10″	Clay	984.62	
					6,493.10

*Sanitary sewer.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Allendale st., North st., easterly	272	12″	Clay		$401.43
	340	10″	Clay		
Amaron st., State st., southerly	349	10″	Clay		238.78
Amherst st., Harvard st., northerly	441	12″	Cem.	$146.99	
	25	10″	Clay	23.78	
Princeton to Monmouth st.	512	12″	Clay	622.90	
	191	10″	Clay		
					793.67
Andrew st., State st., northerly	463	20″	Clay		1,809.21
	422	18″	Clay		
	382	12″	Clay		
Applewood place, Belmont ave., northerly	469	10″	Clay		391.81
Arbor st., Butler to Carew st.	398	12″	Clay		318.05
Arch st. (see Garden brook)					
Armory hill sewer (see private ways).					
Armory st., Worthington st., southerly	570	15″	Cem.	754.98	
Summer st., southerly	374	12″	Clay	384.78	
	325	10″	Clay	193.87	
B. & A. R.R. to Liberty st.	690	15″	Clay		
	360	12″	Clay	1,165.47	
	271	10″	Clay		
Liberty to Sullivan st.	450	1′-10″x2′-9″	Brick	2,439.42	
	476	1′- 8″x2′-6″	Brick		
Sullivan to Carew st.	156	24″	Clay		
	267	20″	Clay	1,006.45	
	290	12″	Clay		
Carew st., northerly	452	20″	Clay	1,209.52	
	803	10″	Clay		
Springfield st., southerly	31	20″	Clay	317.00	
	146	18″	Clay		
					7,471.49
Ashley st., Cedar st., easterly	65	18″	Cem.	80.45	
	580	15″	Cem.	1,555.00	
	697	12″	Cem.		
					1,635.45
Ashmont st., Belmont ave., northeasterly	250	12″	Clay		351.57
	200	10″	Clay		
Atwater terrace, Springfield st., northerly	1020	18″	Clay		1,448.06
Atwater road, Greene lane, westerly	322	20″	Clay		....
	199	18″	Clay		
Auburn st., Fulton st., easterly	397	12″	Clay		655.06
	335	10″	Clay		
Austin st., State st., northerly	363	10″	Clay		334.91

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Autumn st., Summer to Worthington st.	239	15″	Clay		$715.29
Avon place, Maple st., easterly	695	24″	Clay		3,359.45
Bancroft st., Garden brook to Chestnut st.	1,361	3′-4″x5′-0″	Brick		
including Chestnut st., Bancroft to Montmorenci st.	379	3′-2″x4′-9″	Brick		8,914.04
Montmorenci st., Chestnut st., easterly	43	3′-2″x4′-9″	Brick		
Bay st., St. James ave. to Pleasant st.	250	15″	Clay		
	245	12″	Clay	$715.01	
	228	10″	Clay		
Florida to Pleasant st.	235	12″	Clay	321.02	
Florida to Sherman st.	304	20″	Clay		
	377	18″	Clay	1,092.89	
	812	15″	Clay	945.16	
Sherman to Clarendon st.	151	8″	Cem.	46.82	
Catharine to Clarendon st.	194	10″	Clay	200.66	
Bowles to Cambridge st.	1,037	2′-8″x4′-0″	Brick		
	360	2′-2″x3′-3″	Brick	8,056.62	
Cambridge to Sycamore st.	332	24″	Clay		
	360	20″	Clay	1,348.03	
Beacon st., Eastern ave. to Colton st.	250	10″	Clay	152.81	12,726.21
Colton st., easterly	106	8″	Clay	75.08	
					227.89
Beaudry st., I. O., Main st., southerly	300	12″	Clay		
	270	10″	Clay		745.95
Beaumont st., Belmont ave., northerly	250	12″	Clay		
	431	10″	Clay	403.87	
Belmont ave. to Sumner ave.	264	10″	Clay	183.91	
					587.78
Beech st., Central st., northerly	410	10″	Cem.		124.37
Beechwood ave., Sumner to Spruceland ave.	595	12″	Clay		19.09
Belgrade place, Walnut st., westerly	220	8″	Clay		
	140	6″	Clay		....
Bellevue ave., Belmont ave., easterly	300	18″	Clay		
	300	15″	Clay	....	
	194	12″	Clay		
Dickinson st., westerly	744	10″	Clay	....	
					....
Belmont ave., Fort Pleasant ave., easterly	90	10″	Clay	93.92	

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Mill river to Woodside ter.	954	20″	Clay	$2,698.67	
Woodside ter. to Litchfield	660	2′- 0″x3′-0″	Brick		
	445	1′-10″x2′-9″	Brick	11,750.19	
	595	1′- 8″x2′-6″	Brick		
	550	1′- 6″x2′-3″	Brick		
Litchfield st. to Kenwood	432	20″	Clay		
Park	493	18″	Clay	1,495.58	
Kenwood Park to Sumner	301	15″	Clay		
ave	403	12″	Clay	871.69	
	616	10″	Clay		
*Sumner ave. to Wood-	830	3′- 4″x5′-0″	Brick		
lawn st	819	3′- 0″x4′-6″	Brick	8,216.97	
	245	3′- 0″x4′-6″	Br.C.		
	416	2′-10″x4′-3″	Br.C.	3,470.41	
*Woodlawn to White st	1,637	2′-10″x4′-3″	Con.	7,237.33	
					$35,834.76
Belmont place, Belmont ave., southerly	216	10″	Clay		159.78
Belvidere avenue,	300	20″	Clay		
Belmont ave., southerly	201	18″	Clay		824.37
Benton ave., Benton st., easterly	300	10″	Clay		
	325	8″	Clay		360.43
Benton st., State st., south-	301	12″	Clay		
erly	300	10″	Clay	513.96	
	247	8″	Clay		
	320	8″	Clay	419.68	
					933.64
Berendo st., Grenada ter- race to Alderman st	345	12″	Clay		282.67
Berkeley st., Princeton to Monmouth st	483	12″	Clay		560.02
Berkshire st., I. O.					
Oak to Myrtle st	701	12″	Cem.	946.21	
Oak st., easterly	387	12″	Clay	389.89	
Chestnut to Myrtle st	577	12″	Clay	545.74	
					1,881.84
Besse place, Main st., west- erly	290	10″	Clay		....
Biltmore st., Dickinson st.	350	15″	Clay		
to Trafton road	349	12″	Clay		866.51
	351	10″	Clay		
Birnie ave., Wason ave., northerly and easterly	896	24″	Clay		
to North Main st	174	15″	Clay	1,534.02	
Wason ave., southerly	350	18″	Clay		
	417	15″	Clay	1,024.75	
Worcester st. extension, northerly to Grace st	162	15″	Cem.	....	
Worcester st. extension, southerly to Walter st	144	12″	Cem.	....	

*Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Douglas st., northerly....	292	24″	Clay		
	303	20″	Clay	$1,149.93	
	304	15″	Clay		
	144	10″	Clay		
Douglas st., to near	373	1′-10″x2′-9″	Brick	1,319.73	
Hooker st.....	312	20″	Clay	768.74	
	316	18″	Clay		
	168	15″	Clay	158.56	
Arch to Hooker st.....	1,048	24″	Clay	....	
					$5,955.73
Birnie ave. extension, Arch st., southerly.....	445	10″	Clay		....
Blaine st., White to Greenbrier st.....	118	24″	Clay		268.98
Blake hill, Fort Pleasant ave., easterly.....	244	10″	Clay		236.22
Bliss st., from Main to N. Y., N. H. & H. R. R..	1,284	12″	Cem.		1,190.68
Bloomfield st., Oakland st., easterly.....	500	18″	Clay		1,326.47
	397	15″	Clay		
Bond place, including 41 feet in Bridge st. (for cost see Symonds ave.).....	203	12″	Cem.		....
Bond st., Garden brook	341	2′-0″x3′-0″	Brick	1,580.25	
sewer to Chestnut st...	959	24″	Clay	2,261.42	
					3,841.67
Bowdoin st., Worthington	660	15″	Cem.	762.11	
st., southerly.....	285	12″	Clay	371.52	
Worthington to Ingersoll grove.....	819	12″	Cem.	758.64	
					1,892.27
Bowles st., Bay to McKnight	695	15″	Cem.	1,083.39	
	64	15″	Clay	136.50	
Pease st., northerly.....	275	8″	Clay	62.76	
					1,282.65
Boylston st., Cypress to Clinton st.....	610	18″	Cem.		1,638.72
	346	15″	Cem.		
Burlington st., Belmont ave., northerly.....	137	10″	Clay		....
Bradford st., North Main to	352	15″	Cem.		1,301.99
Fulton st.....	758	12″	Cem.		
Bridge st., Main st. to Conn.	798	12″	Cem.	762.38	
river.....	275	15″	Clay	429.14	
Main to Chestnut st....	1,158	2′-0″x3′-0″	Brick	5,414.20	
					6,605.72
Brightwood ave., Plainfield st., westerly.....	171	15″	Clay		178.00
Bristol st., Wilbraham road	299	15″	Clay	599.47	
to Marlborough st.....	560	12″	Clay		

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Marlborough st., southerly	552	10″	Clay	$293.99	$893.46
Broad st., Hanover to Main st.	970	15″	Cem.		1,401.19
Brookline ave., North st., easterly	328	12″	Clay		29.57
	171	10″	Clay		
Brooklyn ave., Sumner ave., southerly	423	12″	Clay		329.56
Brown st., Yale to Bay st.	483	10″	Cem.		357.65
	21	8″	Cem.		
Brunswick st., Brooklyn ave., southerly	307	10″	Clay		190.48
Bryant st., Belmont to Sumner ave.	274	15″	Clay		728.44
	301	12″	Clay		
	300	10″	Clay		
Buckingham place, Bay st., westerly	235	10″	Clay		168.97
Buckingham st., Bay to Clarendon st.	651	12″	Clay	597.24	
Bay st., southerly	35	12″	Cem.		
State to Bay st.	305	18″	Clay		
	345	15″	Clay	1,158.40	
	675	12″	Clay		
					1,755.64
Burr st., Andrew st., easterly	570	12″	Clay		459.03
Butler st., Chestnut to Cass st.	1,268	20″	Clay	2,119.54	
Cass st., easterly	321	20″	Clay	520.71	
					2,640.25
Calhoun st., North Main to North st.	853	12″	Clay	701.77	
North st., easterly	300	8″	Clay	262.38	
					964.15
Cambridge st., Bay st., southerly	276	20″	Clay		
	331	18″	Clay	1,204.43	
	266	15″	Clay		
	302	12″	Clay		
	278	10″	Clay	411.63	
					1,616.06
Card-factory pond (see private ways).					
*Carew st., Main st. to Garden brook (cost shown under Clinton st.)	250	4′-6″x6′-9″	Brick	....	
	32	5′-0″ cir.	Brick	....	
	1,456	4′-3″ cir.	Brick		
Garden brook to Prospect st.	1,257	3′-0″ cir.	Brick	21,951.53	
	791	2′-8″ cir.	Brick		

* Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Massasoit st., easterly....	580	18″	Cem.	$671.51	
	200	12″	Cem.	153.28	
Prospect to Armory st...	989	2′-8″ cir.	Con.	8,513.49	
	1,365	2′-6″x3′-9″	Con.		
Armory st., easterly.....	1,101	10″	Clay		
	448	8″	Clay		
Liberty st., easterly.....	502	15″	Clay	2,400.86	
	499	12″	Clay		
	434	10″	Clay		
					$33,690.67
Carlisle st., Wilbraham road, southerly.....	400	10″	Clay		355.69
	246	8″	Clay		
Cass st., Liberty to Franklin st.....	500	12″	Clay	575.28	
	163	10″	Clay		
Linden st., southerly.....	596	15″	Clay	892.07	
Linden st., northerly.....	224	12″	Clay		
					1,467.35
Catharine st., Dartmouth to McKnight st.....	833	2′-0″x3′-0″	Brick	4,428.92	
State to McKnight st....	348	15″	Clay		
	438	12″	Clay	1,348.95	
	333	10″	Clay		
					5,777.87
Cedar st., Pine to Walnut st.	180	3′-10″x5′-9″	Brick	889.35	
	1,074	3′- 8″x5′-6″	Brick	6,206.73	
Pine st., westerly.....	378	12″	Cem.	324.09	
					7,420.17
Cedar st., I. O., Main to river.....	433	2′-0″x3′-0″	Brick	2,001.44	
Main to Centre st.....	274	12″	Clay	263.92	
					2,265.36
Cemetery brook (see private ways).					
Center street, Oak Grove ave., northerly.....	1,008	10″	Clay		353.08
Centre st., I. O., Oak to Pine st.....	463	12″	Cem.	546.58	
Pine to Cedar st.....	349	12″	Clay	668.19	
	300	10″	Clay		
Cedar st., easterly.....	400	10″	Clay	371.71	
					1,586.48

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Central st., Main st., easterly	99	15″	Cem.	$147.60	
	546	12″	Cem.	385.49	
Main to Maple st.	63	2′-0″x3′-0″	Brick	119.57	
	463	2′-0″x3′-0″	Con.	2,332.17	
	460	24″	Clay	2,665.22	
	434	20″	Clay		
near Maple st. to Sterns	581	18″	Clay	918.22	
terrace	105	12″	Clay	199.95	
Sterns terrace to Cedar st.	334	18″	Cem.	102.50	
Pine st., westerly	500	12″	Cem.	568.42	
Pine to Spruce st.	339	12″	Cem.	376.00	
	335	12″	Clay	514.05	
	310	10″	Clay		
Spruce to Hancock st.	861	20″	Clay	1,344.35	
Hancock to Mill st.	597	2′-0″x3′-0″	Brick	2,135.31	
Mill st. to Mill river	40	24″	Clay	136.83	
					$11,945.68
Chapel st., Eastern ave., easterly	400	10″	Clay		208.13
Chapin terrace, Chestnut st., easterly	327	15″	Clay		1,124.82
	279	12″	Clay		
Chase ave., Fort Pleasant ave., easterly	238	12″	Clay		24.49
	333	10″	Clay		
Charles st., Liberty to Franklin st.	27	12″	Clay	647.16	
	620	12″	Cem.		
Liberty st., southerly	29	12″	Clay	12.94	
					660.10
Charter ave., Walnut st., easterly	527	12″	Clay		475.20
Cherrelyn ave., Phœnix st., southerly	300	15″	Clay	410.62	
	651	12″	Clay	574.73	
					985.35
Cherry st., Mill river to Central st.	398	18″	Clay		1,454.15
	434	15″	Clay		
	251	12″	Clay		
	295	10″	Clay		
Cherryvale ave., Longhill st. to Florentine gardens	596	10″	Clay		15.74
Chester st., Mill st., northerly	459	12″	Clay	509.11	
	161	10″	Clay		
	112	8″	Clay	....	
					509.11

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Chestnut st., Edwards st., southerly	575	12″	Cem.	$579.02	
Mattoon st., southerly	288	15″	Cem.	319.69	
Pearl to Mattoon st.	313	1′-4″x2′-0″	Brick	445.40	
Pearl to Bridge st.	143	1′-8″x2′-6″	Brick	599.51	
Bridge to Worthington st.	480	2′-0″ cir.	Brick	....	
Worthington to Bridge st.	353	24″	Clay	1,148.06	
Worthington to Taylor st.	60	18″	Cem.	291.17	
	244	12″	Cem.		
Lyman st. to B. & A. R.R.	134	18″	Cem.	355.41	
	72	12″	Cem.		
Franklin st., southerly	500	12″	Cem.	358.75	
Franklin st., northerly	397	12″	Cem.	294.14	
Essex to Everett st.	374	15″	Cem.	586.72	
Carew st., southerly	126	8″	Clay	100.68	
Carew to Prospect st.	424	24″	Clay	1,618.64	
	537	20″	Clay		
Prospect st., northerly	220	12″	Cem.	178.88	
Bancroft st., southerly	172	12″	Cem.	123.00	
	108	12″	Clay	190.55	
	19	10″	Clay		
Bancroft to Montmorenci st.	391	15″	Cem.	535.24	
Bancroft to Montmorenci st. (see Bancroft st.)	....	3′-2″x4′-9″	Brick	....	
Montmorenci to Waverly st.	185	12″	Cem.	252.23	
	717	12″	Clay	807.01	
Douglas st., southerly	450	10″	Clay	385.61	
Douglas to Springfield (see Springfield st.)	....	3′-6″ cir.	Brick	....	
Merwin st., southerly	178	10″	Clay	....	
Eagle st., northerly	87	15″	Clay	....	
Eagle st., southerly	171	10″	Clay	....	
					$9,169.71
Chestnut st., I. O., Worcester to Hampden st.	342	15″	Cem.	340.25	
	30	15″	Clay	55.26	
Hampden to Berkshire st.	307	15″	Clay	342.65	
					738.16
Chilson st., Sumner ave., southerly	226	10″	Clay		153.57
Church st., Garden brook to North st.	556	18″	Clay	1,440.68	
	80	15″	Cem.	157.23	
					1,597.91
Churchill st., Sumner ave. to Garfield st.	580	12″	Clay	84.12	
	55	8″	Clay	6.89	
					91.01

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Clantoy st., Phœnix to Dupont st.	398	15″	Clay		
	517	12″	Clay		$1,130.95
	241	10″	Clay		
Claremont st., Orange st., southerly.	492	10″	Clay		264.58
Clarendon st., Worthington st., westerly.	205	10″	Clay	$225.80	
Worthington to St. James ave.	336	18″	Cem.		
St. James ave. to Sherman st.	280	15″	Clay	1,859.31	
	605	12″	Clay		
					2,085.11
Clark st., Hancock st., westerly.	520	10″	Clay		531.80
Clayton st., Plainfield st., westerly.	299	18″	Clay	583.76	
	100	15″	Clay	163.91	
					747.67
Clermont st., I. O., Healey ave., easterly.	150	10″	Clay		123.28
Cleveland st., Armory to Liberty st.	274	18″	Clay		
	250	15″	Clay		
	276	12″	Clay		790.48
	284	10″	Clay		
Clifford st., Bay st., northerly.	250	12″	Clay		
	119	10″	Clay		319.95
Clifton ave., Central st., southerly.	398	8″	Clay		134.54
Cliftwood st., Sumner ave., southerly.	464	10″	Clay		37.90
Clinton st., Fulton to Boylston st.	150	10″	Clay	....	
Boylston st., easterly	410	12″	Cem.	441.52	
submerged outlet.	176	24″	W'd		
	24	24″	C-ir.	2,207.90	
Conn. river to Fulton st..	593	4′-10″x7′-3″			
Fulton st., Clinton to Sargeant st.					
Sargeant st., Fulton to Main st.			Brick	26,137.87	
Carew st., Main st. to Garden brook.					
(For lengths and sizes see individual streets.)					
					28,787.29
Clyde st., Plainfield st., westerly.	350	18″	Clay		
	350	15″	Clay		1,519.51
	271	12″	Clay		

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
College st., State st. to Shattuck ave.	839	12″	Clay	$207.53	
*Shattuck ave. to Acorn st.	311	12″	Clay	457.62	
	900	10″	Clay		
State st. to Wilbraham road	34	12″	Clay	387.72	
	443	10″	Clay		
					$1,052.87
Collins st., Eastern ave. to Logan st.	300	12″	Clay		457.04
	269	10″	Clay		
Colonial ave., State st., southerly	326	12″	Clay		25.65
	348	10″	Clay		
Colton st., Wilbraham road to Beacon st.	448	18″	Clay		2,015.70
	569	15″	Clay		
	658	12″	Clay		
Columbia terrace, Liberty st., north and east.	498	10″	Clay		....
Commonwealth ave., Belmont to Washington ave.	441	24″	Clay	2,878.00	
	500	20″	Clay		
	549	18″	Clay		
Washington ave. to Fairview st.	691	15″	Clay	720.72	
					3,598.72
Concord terrace, Wilbraham road, northerly	253	10″	Clay		255.13
Congress st., Garden brook to Main st.	53	12″	Cem.	75.46	
	319	12″	Clay	705.44	
Garden brook to Chestnut st.	133	20″	Clay		
	198	18″	Clay	1,463.00	
	369	15″	Clay		
	288	12″	Clay		
	119	15″	Cem.	277.22	
	76	10″	Cem.		
					2,521.12
Continental st., Sumner ave. southerly	215	12″	Clay		102.05
	266	10″	Clay		
Converse st., Sumner ave. to Vermont st.	506	18″	Clay		443.87
Cook's ave., Worthington st. to N. Church ave.	117	15″	Cem.		573.84
N. Church ave., southerly (includes cost of N. Church ave.)	69	10″	Cem.		

*Sanitary sewer.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Cornell st., Dartmouth terrace to Wellesley st.	185	15″	Clay	$543.05	
	374	12″	Clay		
Wellesley st., easterly	186	10″	Clay	208.20	
Princeton st., westerly	52	10″	Cem.	47.30	
	86	8″	Clay	88.04	
Princeton st., easterly	181	10″	Cem.	132.12	
	120	10″	Clay	180.93	
					$1,199.64
Cortland st., State st., northerly	164	15″	Clay		672.01
	621	12″	Clay		
Cottage ave. (see Melrose st.)					
Court st., Court Square ave., westerly	461	12″	Cem.	621.55	
Main st. to Court Sq. ave.	200	12″	Cem.	309.67	
					931.22
Crane st., Franklin st., northerly	299	10″	Clay		331.87
Crosby st., Walnut st., westerly	321	10′	Clay		231.38
Cross st., Main to Willow st.	388	18″	Clay	878.12	
Willow st., easterly	363	12″	Cem.	352.25	
					1,230.37
Crystal ave., Belmont ave., easterly	251	15″	Clay		
	250	12″	Clay	24.07	
	298	10″	Clay		
*Dickinson st., westerly	362	15″	Clay	650.64	
	372	12″	Clay		
					674.71
Cumberland st., Chestnut st., westerly	167	10″	Clay	125.29	
North Main to North st.	205	15″	Clay	300.96	
	238	12″	Clay	284.06	
					710.31
Cypress ave., Cypress st., northerly	360	12″	Cem.	484.08	
	40	12″	Clay	23.78	
					507.86
Cypress st., Conn. river to Garden brook in Ferry st.	1,081	3′-4″x5′-0″	Brick	10,048.85	
†Connecticut river to Fulton st.	385	4′-10″x7′-3″	'Con.	3,890.53	
†Fulton to Main st.	691	4′- 2″x6′-3″	'Con.	6,470.80	
					20,410.18
Dale st., northerly from sewer 60 ft. south of Hubbard ave.	203	10″	Clay	184.27	
Winthrop st., southerly	46	8″	Clay	13.08	
					197.35
Dartmouth st., St. James ave. to Yale st.	973	3′-0″x4′-6″	Brick		8,247.06
Yale to Bowles st.	295	2′-6″x3′-9″	Brick		

* Surface drainage only. † Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Dartmouth terrace, Worthington to Cornell st....	499	20″	Clay		
	357	18″	Clay		$2,213.06
	177	15″	Clay		
Davis court, Bridge st. to Harrison ave.....	450	12″	Clay		500.67
Daviston ave., Allen to West Alvord st.....	403	10″	Clay		
West Alvord to East Alvord st.....	400	10″	Clay		796.55
East Alvord st., southeasterly.....	299	10″	Clay		
Dawes st., Bay st., southerly	229	15″	Clay		
	380	12″	Clay		207.36
	518	10″	Clay		
Dawson ave., White street, westerly.....	350	10″	Clay		118.35
Daytona st., Belmont to Sumner ave.....	524	12″	Clay		500.44
Demond ave., Fisk ave., westerly.....	510	12″	Clay		
Plainfield st., easterly....	403	12″	Clay		642.06
Dexter st., Knox to Pine st..	558	12″	Cem.	$98.45	
	226	10″	Clay	245.10	
					343.55
Dickinson st., Mill st. to Sumner ave.....	35	4′-6″ cir.	Brick		
	60	2′-1″x5′-0″	Con.		
	251	5′-0″ cir.	Brick		
	679	4′-0″ cir.	Brick	44,552.11	
	*460	4′-10″x7′-3″	Brick		
	*869	4′-8″x7′-0″	Brick		
	*1,040	4′-4″x6′-6″	Brick		
	*996	4′-2″x6′-3″	Brick		
Sumner ave., southerly ..	1,379	2′-6″x3′-9″	Brick		
	324	2′-4″x3′-6″	Brick	8,760.53	
	434	2′-0″x3′-0″	Brick		
	312	1′-10″x2′-9″	Brick		
					53,312.64
Donald st., Birnie ave., easterly.....	315	10″	Clay		406.60
Dorchester st., St. James ave. to Amherst st.....	364	12″	Clay		417.70
	238	10″	Clay		
Dorne st., Smith st., northerly.....	219	12″	Clay		182.12
Douglas st., B.&M. R. R. to North Main st. (see Rowland ave.).....	....	....	....		....
North Main to Chestnut st.....	424	4′-6″ cir.	Brick		
	442	4′-0″ cir.	Brick		4,805.19

* Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Dresden st., State st., southerly	359	12″	Clay		$25.14
	321	10″	Clay		
Dunmoreland st., Wilbraham road, southerly	301	15″	Clay		604.37
	200	12″	Clay		
***Dwight st.,** Sanford to State	258	2′-8″x4′-0″	Brick	$1,571.86	
Sanford to Harrison ave.	253	20″	Clay		
	229	18″	Clay	1,441.27	
	199	15″	Clay		
Harrison ave., northerly	129	12″	Clay	319.96	
Hillman st., southerly	226	10″	Clay	257.25	
Hillman st., northerly	103	10″	Clay	388.28	
Worthington st., southerly	269	12″	Clay	433.91	
Worthington st., northerly	342	12″	Cem.	374.73	
					4,787.26
Dymon st., Walnut st., easterly	415	12″	Cem.		385.92
Eagle st., North Main to Chestnut st.	643	15″	Clay		....
East Alvord st., West Alvord st. to Daviston avenue.	495	18″	Clay		956.64
	598	12″	Clay		
East Court st., Dwight st., westerly	206	12″	Clay		303.10
	62	10″	Clay		
East Hooker st., North Main to North st.	444	10″	Cem.	39.04	
	255	10″	Clay	....	
					39.04
Eastern ave., Watershops pond to Manhattan st.	1,164	24″	Clay	2,164.43	
Manhattan to Alden st.	338	20″	Clay	636.21	
Alden to Collins st.	231	12″	Clay	313.99	
Greene st., southerly	125	8″	Clay	69.58	
Greene to Ladd st.	38	15″	Clay	67.21	
Olive st., southerly	169	8″	Clay	167.87	
Lebanon to Olive st.	159	12″	Cem.	190.96	
Lebanon to King st.	194	12″	Cem.	351.89	
	55	12″	Clay	95.43	
King to Chapel st.	152	10″	Cem.	166.50	
	141	10″	Clay	149.70	
Pendleton ave., northerly	312	12″	Cem.	256.78	
Tyler st., northerly	286	12″	Cem.	181.30	
Quincy st., northerly	118	10″	Cem.	131.15	
Monroe st., southerly	28	12″	Cem.	45.09	
	210	8″	Clay	179.00	
Monroe st., northerly	29	12″	Cem.	51.50	
	128	8″	Clay	90.66	
					5,309.25
Eddywood ave., Sumner ave., northerly	328	10″	Clay		436.66
Edgemont st., State st., northerly	499	10″	Clay		510.70
	201	8″	Clay		

*Surface drainage only.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
*Edgewood st., Acorn to Bay st.	1,001	8″	Clay		$443.73
Edwards st., Chestnut st., easterly	551	12″	Cem.		404.88
Elliott st., Salem st., southerly	610	15″	Cem.	$730.48	
	243	12″	Cem.	341.99	
					1,072.47
Elm st., submerged outlet	191	24″	Wood	1,700.79	
	26	24″	C. Iron	359.80	
Conn. river to Water st	385	3′-9″ cir.	Brick	10,744.19	
Water to Main st	996	3′-8″x5′-6″	Brick		
					12,804.78
Elmwood st., Main to Hanover st.	300	18″	Clay		1,058.02
	249	15″	Clay		
	299	12″	Clay		
Emery st., Boylston st., east and west	542	12″	Cem.		616.36
Essex street, Garden brook, westerly	418	15″	Cem.	355.00	
Garden brook to Chestnut st.	1,115	2′-2′x3′-3″	Brick	7,105.10	
	204	18″	Cem.	355.33	
					7,815.43
Essex st., I. O., Oak to Myrtle st.	254	12″	Clay	662.25	
	426	10″	Clay		
Oak st., easterly	183	10″	Clay	248.23	
					910.48
Euclid ave., Belmont ave. to Dickinson st.	389	12″	Clay	1,102.00	
	741	10″	Clay		
	77	8″	Clay	50.67	
†Dickinson st., westerly	350	15″	Clay	773.10	
	350	12″	Clay		
Dickinson st., easterly	275	10″	Clay	332.10	
					2,257.87
Everett st., Chestnut st. to brook	323	15″	Cem.	308.39	
brook to Cass st.	926	15″	Clay	821.43	
Cass st., easterly	313	15″	Clay	617.45	
					1,747.27
Fairbanks place, Worthington st., northerly	249	10″	Clay		220.66
Fairfield st., Litchfield to Garfield st.	376	12″	Clay	....	
	556	10″	Clay	351.64	
					351.64

* Sanitary sewer. † Surface drainage only.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Fairmount st., Commonwealth ave. to Lawndale st.	350	10″	Clay		$173.17
Farnsworth st., Hamburg st. to Chicopee line.	530	20″	Clay	$1,653.14	
	279	18″	Clay		
	248	12″	Clay	827.14	
	264	10″	Clay		
					2,480.28
Federal st., Worthington to Pearl st.	567	12″	Cem.	740.92	
Summer st., southerly	274	10″	Clay	172.00	
					912.92
Ferry st., Main to Garden brook (see Cypress st.).	....	....	....	....	
Garden brook to Chestnut st.	1,168	2′-4″x3′-6″	Brick	5,417.12	
Main st., easterly	*394	4′-2″x6′-3″	Con.	11,067.29	
	1,004	4′-9″ cir.	Con.		
					16,484.41
Firglade ave., Sumner ave. to Spruceland st.	350	10″	Clay	84.44	
	203	8″	Clay		
Spruceland to Pineywoods avenue.	447	10″	Clay	....	
	67	8″	Clay	....	
Pineywoods ave. to Washington boulevard.	242	12″	Clay	395.64	
	176	10″	Clay		
					480.08
Fisk ave., Rowland to Worcester ave.	272	24″	Clay		
	275	20″	Clay	1,073.11	
	298	10″	Clay		
Wason ave., southerly	299	24″	Clay		
	294	20″	Clay	1,216.81	
	248	12″	Clay		
					2,289.92
Florence st., Pine st., easterly	824	15″	Cem.	2,227.38	
	651	12″	Cem.		
Hancock st., easterly	253	10″	Cem.	323.93	
	26	10″	Clay	31.11	
					2,582.42
Florentine gardens, Pineywoods ave., northerly.	421	10″	Clay		22.83
Florida st., Worthington to Ingersoll Grove st.	555	15″	Clay	978.89	
	279	12″	Clay		
Worthington to St. James ave.	935	2′-2″x3′-3″	Brick	4,499.10	
St. James ave. to Bay st.	599	24″	Clay	1,832.21	
					7,310.20

* Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Forest st., Belmont to Forest Park ave.....	419	12″	Clay		$651.93
	255	10″	Clay		
Forest Park ave., Fort Pleasant ave. to Garfield st.	1,081	24″	Clay	....	
	325	20″	Clay	$1,217.48	
	562	18″	Clay		
Sumner ave., northerly ..	567	12″	Clay	123.15	
Sumner ave., southerly...	66	10″	Clay	....	
	438	10″	Clay	318.29	
Pineywoods ave., northerly.....	380	10″	Clay	33.87	
					1,692.79
Fort st., Main to Water st..	633	12″	Cem.		633.43
Fort Pleasant ave., Mill river to Sumner ave....	888	2′-4″x3′-6″	Brick	13,339.80	
	1,825	2′-0″x3′-0″	Brick		
Mill st., southerly.....	428	12″	Clay	293.42	
					13,633.22
Foster st., Knox st., easterly	511	12″	Clay	517.25	
	224	12″	Cem.	34.68	
					551.93
Franklin st., Garden brook sewer to Main st.....	434	18″	Cem.	593.13	
Garden brook sewer to Chestnut st.....	919	2′-2″x3′-3″	Con.	4,106.84	
	295	20″	Clay	652.82	
Chestnut to Charles st...	273	15″	Clay	303.37	
Charles st., easterly.....	670	12″	Clay	502.35	
Cass to Murray Hill ave.	621	12″	Clay	1,026.61	
	330	10″	Clay		
Nursery st., westerly.....	207	15″	Clay	....	
Nursery to Genesee st....	107	15″	Clay	199.93	
	557	15″	Cem.	....	
	27	12″	Clay	57.66	
					7,442.71
Fremont st., Main to Water st.....	780	1′-6″x1′-7″	Brick	702.45	
Main st., westerly.....	656	12″	Cem.	692.92	
	30	12″	Clay	65.21	
					1,460.58
Fulton st., Cypress to Clinton st.....	944	12″	Cem.	826.66	
*Clinton to Sargeant st. (cost shown under Clinton st.).....	1,080	4′-8″x7′-0″	Brick	....	
	42	4′-10″x7′-3″	Brick	....	
Sargeant to John st..	555	15″	Cem.	1,219.02	
John st., northerly.....	314	12″	Clay	674.48	
	408	10″	Clay		
					2,720.16
Garden brook sewer, (see private ways).					

* Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Gardner ave., Gardner st., northerly	151	8″	Clay		$73.11
Gardner st., Hanover to Water st	655	2′-0″x3′-0″	Brick	$1,995.23	
Water to Main st	226	12″	Clay	423.58	
	199	10″	Clay		2,418.81
Garfield st., Forest Park ave., easterly	556	15″	Clay	967.16	
	514	12″	Clay		
Belmont ave., westerly	531	10″	Clay	329.87	
					1,297.03
Genesee st., Franklin st., southerly	200	10″	Clay		234.87
George st., Dexter st., southerly	409	10″	Clay		344.52
Girard ave., Bay to McKnight st	944	12″	Clay		863.45
Goodrich st., Liberty st., northerly	240	10″	Clay		460.87
Gordon st., Pasadena ave. to White st	618	15″	Clay		555.79
Governor st., Armory st. to Penacook ave	424	20″	Clay		
	401	18″	Clay		1,276.19
	402	15″	Clay		
	224	12″	Clay		
Grace st., Birnie ave., easterly	274	15″	Cem.		51.56
Grand st., Revere st., easterly	250	15″	Clay		
	252	12″	Clay	....	
Revere st., westerly	151	10″	Clay	....	
					....
Grant st., Magazine to Armory st	588	12″	Cem.		477.26
Granville st., Eastern ave. to Logan st	495	12″	Cem.		560.46
Gray's ave., Cypress ave., northerly	495	12″	Cem.		460.92
Greenacre sq. (north), Foster st., easterly	201	10″	Clay		149.62
Greenacre sq. (south), Foster st., easterly	246	10″	Clay		163.73
Greenbrier st., Larkspur to Trillium st	300	10″	Clay		
Blaine to Trillium st	270	10″	Clay		291.24
Greene st., Hancock to Eastern ave	610	18″	Cem.		
	793	15″	Cem.		1,897.68

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Greene lane, Rimmon ave.,	744	12″	Clay	....	
westerly and northerly.	143	10″	Clay	....	
					....
Greenleaf st., Sumner ave.					
to Garfield st.....	527	12″	Clay		$133.60
Greenwich st., Birnie ave.,					
easterly.....	300	12″	Clay		
	300	10″	Clay		467.79
Greenwood st., Garden	386	12″	Cem.		
brook to Main st.....	538	15″	Clay		
Garden brook, easterly...	448	12″	Clay		2,167.12
	117	10″	Clay		
Grenada terrace, Dickinson	220	18″	Clay		
to Ventura st.....	310	15″	Clay	$708.45	
Ventura st., easterly	309	12″	Clay		
	216	10″	Clay	397.28	
					1,105.73
Grosvenor st., North to	131	18″	Cem.		
Chestnut st.....	648	15″	Cem.		721.17
Grove st., North Main st.,					
easterly.....	409	10″	Clay		
North st., westerly	270	10″	Clay		442.65
Groveland ave., Dickinson	533	12″	Clay		
st. to town line.....	117	10″	Clay		525.19
Grover st., Armory to Lib-					
erty st.....	300	18″	Clay		
	303	15″	Clay		
	298	12″	Clay		910.58
	432	10″	Clay		
Hall st., Belmont ave. to	500	12″	Clay		
Dickinson st.....	474	10″	Clay	904.55	
*Dickinson st., southerly.	774	12″	Clay	698.29	
					1,602.84
Hamburg st., Springfield st.,	367	20″	Clay		
easterly.....	235	10″	Clay		1,067.20
Hampden st., Water to Main					
st.....	569	15″	Cem.		762.57
Hampden st., I. O., Chest-					
nut st., easterly.....	285	12″	Cem.	187.28	
	174	12″	Clay	299.12	
Holly st., easterly.....	150	10″	Clay	165.26	
Pine st., westerly.....	200	12″	Clay		
	199	10″	Clay	311.59	
					963.25

*Surface drainage only.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Hampshire st., I. O., Oak st.,	300	12″	Clay	$633.59	
westerly	398	10″	Clay		
Oak st., **easterly**	250	12″	Cem.	206.20	
Pine st., **westerly**	324	10″	Clay	391.15	
Myrtle st., **westerly**	300	10″	Clay	295.05	
					$1,525.99
Hancock st., Mill river to Central st	920	12″	Clay	995.01	
Central to Walnut st	218	18″	Cem.	1,874.54	
	1,343	15″	Cem.		
Walnut to Alden st	122	12″	Cem.	88.00	
Lebanon to Alden st	827	2′-0″x3′-0″	Brick	5,009.61	
Walnut (through Lebanon) to Quincy st	1,852	3′-6″x5′-3″	Brick	21,668.02	
Quincy to State st	913	3′-4″x5′-0″	Brick		
					29,635.18
Hanover st., York to Gardner st	830	2′-2″x3′-3″	Brick		2,650.26
Harriet st., North Main to North st	250	15″	Clay	377.17	
	207	12″	Clay		
North st., **easterly**	330	10″	Clay	172.92	
					550.09
Harrison ave., Main to Chestnut st	600	15″	Cem.	874.11	
	250	8″	Clay	203.61	
					1,077.72
Harvard st., Yale st. to St. James ave	316	18″	Clay	998.99	
	300	15″	Clay		
	291	12″	Cem.	266.84	
St. James ave. to Cornell st	736	12″	Cem.	25.66	
					1,291.49
Hawley st., State st., southerly	110	12″	Cem.		
Monroe st., northerly	71	12″	Cem.		280.57
	330	10″	Clay		
Hawthorne st., Hancock st., westerly	441	12″	Cem.		480.95
Hayden st., State st., northerly	335	12″	Clay		
	299	10″	Clay		24.11
	222	8″	Clay		
Healey ave., I. O., Worcester st., southerly	326	15″	Clay		270.40
Hebron st., North to Chestnut st	663	12″	Clay		519.82

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Hiawatha st., White st., westerly	383	10″	Clay		$268.30
Hickory st., Mill river intercepting sewer to Alden st.	754	20″	Clay		2,446.84
	228	18″	Clay		
	184	15″	Clay		
	788	12″	Clay		
High st., Maple st. to Ingraham ave.	523	18″	Clay		
	567	15″	Clay	$1,958.92	
	550	12″	Clay		
Ingraham ave., easterly	846	12″	Clay	987.71	
					2,946.63
Hillman st., Main to Dwight st.	350	15″	Clay		1,436.30
	380	12″	Clay		
Hillside place, Richelieu court, easterly	106	8″	Clay		....
Holly st., I.O., Worcester to Hampden st.	377	15″	Clay	419.11	
Hampden st., southerly	175	12″	Clay	117.69	
					536.80
Hollywood st., Commonwealth ave., easterly	211	12″	Clay	445.87	
	241	10″	Clay		
Dickinson st., easterly	174	10″	Clay	121.04	
					566.91
Holyoke st., Main st., westerly	734	12″	Cem.		987.24
Home st., Liberty st., westerly	424	10″	Clay	302.25	
Penacook ave., easterly	246	10″	Clay	185.02	
					487.27
Homer st., State st., southerly	31	12″	Clay		186.81
	464	10″	Clay		
Horace st., Dickinson st., northerly	363	12″	Clay		783.12
	411	10″	Clay		
Howard st., Main st., westerly	344	15″	Clay	837.22	
	321	12″	Clay		
Water st., easterly	276	12″	Cem.	255.78	
	30	12″	Clay	43.40	
Water st., westerly	314	12″	Cem.	326.98	
	31	12″	Clay	43.47	
					1,506.85
Hubbard ave., Main st., easterly	257	15″	Clay		630.47
	321	12″	Clay		
Hunt terrace, Allen st., northerly	304	10″	Clay		....
Hunter place, State st., northerly	350	12″	Clay		602.72
	313	10″	Clay		

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Huntington st., Birnie ave., easterly	300	12″	Clay		$416.95
	300	10″	Clay		
Hyde ave., Fisk ave. to Plainfield st.	301	15″	Clay		712.99
	300	12″	Clay		
	219	10″	Clay		
Ingersoll grove, Worthington st., northerly	782	12″	Cem.	$1,038.85	
	218	8″	Clay		
Florida st., easterly	146	10″	Clay	90.97	
Bowdoin st., easterly	132	10″	Clay	106.53	
					1,236.35
Ionia st., State st., northerly	720	10″	Clay		445.92
Irvington st., Sumner ave. to Morningside Park	300	12″	Clay		180.95
	400	10″	Clay		
James st., Cedar st., northerly	289	15″	Cem.		924.38
	534	12″	Cem.		
Jefferson ave., North Main to Chestnut st.	299	20″	Clay		
	299	18″	Clay		
See private ways also.	276	15″	Clay	1,663.86	
	60	12″	Clay		
	414	12″	Cem.	492.50	
	78	6″	Clay	37.89	
					2,194.25
John st., Fulton to Plainfield st.	652	12″	Cem.		420.18
Johnson st., Dickinson st. to Pasadena ave.	1,964	18″	Clay		3,756.87
Johnson st., I. O., Main to South st.	500	20″	Clay		1,254.26
	463	18″	Clay		
Keith st., Belmont ave. to Dickinson st.	551	12″	Clay	1,106.40	
	551	10″	Clay		
*Dickinson st., southerly	350	15″	Clay		
	301	12″	Clay	823.06	
	186	10″	Clay		
					1,929.46
Kensington ave., Oakland to Earl st.	451	18″	Clay	1,179.27	
	402	15″	Clay		
Earl st. to Pasadena ave.	567	12″	Clay	605.63	
	260	10″	Clay		
					1,784.90
Kenwood park, Belmont ave., northerly	130	12″	Clay		139.96
	1,127	10″	Clay		
Kenwood terrace, Belmont to Sumner ave.	218	12″	Clay		305.66
	197	10″	Clay		

* Surface drainage only.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Kibbe ave., Summer to Worthington st.	260	18″	Clay		$552.92
***Kibbe Hollow**, northerly of Worthington st.	447	24″	Clay		....
King st., Walnut to Hancock st.	504	15″	Cem.	$921.37	
	441	12″	Cem.		
Hancock to Logan st.	311	20″	Clay		
	399	18″	Clay	2,650.91	
	686	15″	Clay		
	238	12″	Clay		
	239	10″	Clay	701.29	
***Westford** to Wilbraham ave.	427	10″	Clay	321.81	
					4,595.38
Knox st., Mill river to Windsor st.	1,303	24″	Clay		3,132.56
Ladd st., Eastern ave. to	243	15″	Clay		
Logan st.	304	12″	Clay		424.92
Lafayette st., St. James ave.	582	12″	Clay		
to Amherst st.	21	10″	Clay		545.34
Larkspur st., White st., easterly	299	15″	Clay		
	304	12″	Clay		484.95
	101	10″	Clay		
Laurel st., Conn. river to Plainfield st.	888	18″	Cem.	2,303.07	
	60	18″	Clay	282.48	
	20	18″	Clay	44.62	
					2,630.17
Laverne ave., Bellevue to Marengo ave.	211	10″	Clay		....
Lebanon st. (see Hancock)	....	3′-6″x5′-3″	Brick	....	
Hancock st., westerly.	158	2′-0″x3′-0″	Brick	1,495.77	
Hancock to Eastern ave.	606	18″	Cem.		
	816	15″	Cem.	1,842.70	
					3,338.47
Ledyard st., Armory st., northwesterly	478	10″	Clay		321.39
Lenox st., Sumner ave., southerly	465	10″	Clay		53.58
Lester st., Sumner ave. to	286	12″	Clay		
Vermont st.	279	10″	Clay		324.11
Lexington ave., Chestnut to Massasoit st.	668	12″	Clay	546.52	
Massasoit st., easterly	145	2′-0″x3′-0″	Con.	594.63	
					1,141.15

*Sanitary sewer.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Leyfred terrace, Belmont ave., northerly	300	18″	Clay		$957.30
	317	15″	Clay		
Liberty st., Garden brook to Main st	118	12″	Clay	$179.19	
Garden brook to Chestnut st	70	1′-6″x1′-7″	Brick		
	172	12″	Cem.	1,101.78	
	967	15″	Cem.		
	171	8″	Cem.		
Chestnut to Webster st	784	2′- 4″x3′-6″	Brick		
	659	1′-10″x2′-9″	Brick	9,123.49	
	684	2′- 2″x3′-3″	Brick		
Webster to Armory st	366	3′- 0″x4′-6″	Brick		
	1,282	2′- 2″x3′-3″	Brick	5,383.15	
	317	1′-10″x2′-9″	Brick		
	449	2′- 2″x3′-3″	Brick	2,539.81	
Armory to Home st	1,194	24″	Clay		
	1,103	18″	Clay	5,227.99	
	714	15″	Clay		
					23,555.41
Lillian st., Oak st., easterly	297	12″	Clay		232.47
Lincoln st., Magazine to Federal st	823	12″	Clay		676.54
Linden st., Chestnut to Cass st	470	18″	Cem.		1,318.15
	862	15″	Cem.		
Litchfield st., Belmont ave. to Fairfield st	159	15″	Clay	335.11	
Garfield st., northerly	69	6″	Clay	7.10	
					342.21
Locust st., York to Mill st.	84	3′-0″x4′- 6″	Brick		
	364	2′-9″x4′-1½″	Brick		6,804.18
	686	2′-6″x3′- 9″	Brick		
Logan st., Collins st., southerly	97	10″	Clay	109.36	
Collins to Ladd st	183	10″	Clay	140.36	
Ladd st., northerly	88	10″	Clay	67.64	
Granville st., northerly	200	10″	Clay	169.04	
					486.40
Lombard st., Water st., easterly	500	12″	Cem.		376.60
Longfellow terrace, White st., westerly	246	12″	Clay		290.03
	200	10″	Clay		

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Longhill st., submerged outlet	26	18″	Clay		
	290	18″	W'd	$5,387.70	
	28	18″	C-ir.		
Conn. river to Washington boulevard	1,310	24″	Clay	2,086.09	
(See Washington boulevard)	346	2′-4″x3′-6″	Brick	1,936.97	
Washington ave., northerly	399	15″	Clay		
	512	12″	Clay	1,027.66	
	160	10″	Clay		
Sumner ave., southerly	356	8″	Clay	386.61	
Warner pl. to Sumner ave.	423	10″	Clay	379.51	
Main st. to Warner place.	136	24″	Clay		
	265	18″	Clay		
	350	15″	Clay	2,608.25	
	400	12″	Clay		
	240	10″	Clay		
	90	2′-0″x3′-0″	Con.	447.63	
					$14,260.42
Loring st., Water st., easterly	607	12″	Cem.	733.41	
	40	12″	Clay	48.34	
					781.75
Lowell st., Conn. river to Plainfield st.	305	18″	Clay		
	396	15″	Clay		1,063.24
	466	12″	Clay		
	283	10″	Clay		
Lyman st., Main to Chestnut st.	1,335	2′-0″x3′-0″	Brick	6,113.12	
Chestnut to Spring st.	418	15″	Clay	1,783.33	
	302	15″	Cem.	695.83	
					8,592.28
Lyndale st., Belmont ave., northerly	350	15″	Clay		
	300	12″	Clay		952.60
	324	10″	Clay		
Lyons st., I. O., Main st., northerly	261	18″	Clay		389.58
Madison ave., Central st., northerly	250	12″	Clay		
	287	10″	Clay		737.57
Magazine st., Worthington to Lincoln st.	682	18″	Cem.		
	249	15″	Cem.		1,211.05

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material	Cost.	
Magnolia terrace, east side, Sumner to Spruceland ave.	620	10″	Clay	$1,233.46	
west side, Sumner to Spruceland ave.	621	10″	Clay		
overflow connection between east and west side	62	8″	Clay	26.00	
Washington to Spruceland ave.	362	24″	Clay	21.08	
	602	12″	Clay		
					$1,280.54
Main st., Pecousic ave. to Longhill st.	191	2′-4″x3′-6″	Con.	1,077.51	
Mill river to Mill st.	258	10″	Clay	342.25	
Locust to Mill st.	385	15″	Clay	1,926.01	
	394	12″	Clay		
Mill st., southerly.	55	15″	Cem.	96.72	
York st. to B. & A. R. R.	56	7′-0″ cir.	Brick	20,812.99	
	1,772	6′-6″ cir.	Brick		
	906	5′-6″ cir.	Brick		
	990	5′-0″ cir.	Brick		
	1,624	3′-4″x5′-0″	Brick	34,453.56	
	864	2′-4″x3′-6″	Brick		
	263	12″	Clay	164.82	
Cypress to Emery st.	298	15″	Clay	1,210.56	
	270	12″	Clay		
Emery st., southerly.	278	12″	Cem.	389.20	
Emery to Sargeant st.	341	24″	Clay	2,539.81	
	442	20″	Clay		
	480	18″	Clay		
	186	15″	Clay		
					63,013.43
Main st., I. O., Chicopee river to Pine st.	2,321	2′-4″x3′-6″	Brick	7,636.81	
Pine to Cedar st.	500	18″	Cem.	870.78	
	185	15″	Cem.		
	103	12″	Clay	128.49	
Cedar to Lyons st.	1,110	2′-0″x3′-0″	Brick	5,068.28	
Chicopee river through private land and Main st. to Beaudry st.	699	18″	Clay	1,530.17	
	232	15″	Clay		
	212	10″	Clay		
Parker st., westerly.	409	12″	Clay	448.86	
Lyons st., easterly.	205	24″	Clay	1,334.58	
	245	18″	Clay		
	129	12″	Clay		
					17,017.97

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Malden st., Allen st., southerly	542	15″	Clay		
	291	12″	Clay		$25.75
	494	10″	Clay		
Manhattan st., Eastern ave. to Walnut st.	290	15″	Clay		
	645	12″	Clay		862.70
	205	10″	Clay		
Maple st., State to Temple st.	315	18″	Clay	$675.51	
	....	...	....	51.55	
Park to High st.	225	18″	Clay	505.21	
Union st., southerly	515	18″	Cem.		
	135	12″	Cem.	959.13	
Central st., southerly	33	18″	Cem.		
	388	12″	Cem.	160.95	
	784	12″	Clay	1,289.58	
Pine st., northerly	195	15″	Cem.		
	522	12″	Cem.	1,093.44	
					4,735.37
Mapledell st., State to Burr st.	337	15″	Clay		
	300	12″	Clay		133.34
	388	10″	Clay		
Maplewood ter., Fort Pleasant ave., easterly	682	15″	Clay		
	329	12″	Clay		22.21
	178	10″	Clay		
Marble st., Main st., easterly	222	18″	Cem.		
	586	15″	Cem.		1,248.12
	242	12″	Cem.		
Marengo park, Belmont ave., easterly	443	15″	Clay		
	612	12″	Clay		117.62
	778	10″	Clay		
Margaret st., Water st., westerly	520	12″	Cem.	540.89	
Water st., easterly	825	12″	Cem.	855.32	
	30	12″	Clay	31.41	
					1,427.62
Marion st., Bay st., southerly	833	12″	Clay	915.66	
Chapin st., easterly	94	10″	Clay		
	319	8″	Clay	25.89	
					941.55

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Market st., State st., northerly	119	10″	Clay	....	
Sanford st., southerly	200	12″	Clay	$412.04	
Sanford st. to Harrison ave	301	15″	Clay	1,197.72	
	350	12″	Clay		
Harrison ave., southerly	154	12″	Cem.	....	
					$1,609.76
Marlboro ave., State st. to Wilbraham road	300	12″	Clay		537.09
	449	10″	Clay		
Marshall place (see Melrose st.).					
Mason place, Dickinson st., southerly	200	12″	Clay		433.02
	276	10″	Clay		
Mason st., State to Pease st.	349	15″	Clay		746.99
	359	12″	Clay		
Massachusetts ave., Wilbraham road, southerly	300	15″	Clay		
	300	12″	Clay	976.70	
	227	10″	Clay		
Westford circle, northerly				47.67	
					1,024.37
Massasoit place, Massasoit st., easterly	381	12″	Clay		....
Massasoit st., Carew st., northerly	709	12″	Cem.	579.69	
	131	10″	Clay	124.62	
Lexington ave., southerly	300	12″	Clay	366.86	
	298	10″	Clay		
Montmorenci st. to Lexington ave	354	2′-2″x3′-3″	Con.	1,468.20	
Montmorenci st., northerly	152	10″	Clay	113.14	
Pratt st., southerly	149	10″	Clay	218.09	
					2,870.60
Mattoon st., Chestnut to Salem st.	356	1′-4″x2′-0″	Brick		778.21
	87	15″	Cem.		
Maynard st., State st. to Shattuck ave	431	15″	Clay		670.82
	400	12″	Clay		
McKnight st., Catharine to Sherman st	255	15″	Cem.	421.42	
	30	15″	Clay	56.78	
Catharine to Bowles st	141	10″	Cem.	67.27	
	26	10″	Clay	75.32	
Bowles st. to Girard ave.	119	12″	Cem.	81.85	
	263	10″	Clay	233.51	
					936.15

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Mechanic st., Water st., westerly	302	12″	Cem.	$205.25	
	20	8″	Clay	72.99	
					$278.24
Medford st., Birnie ave., easterly	390	12″	Clay		
	183	10″	Clay		367.29
Melrose st., sewer between Hickory and Melrose st.	429	18″	Clay		
Eastern ave. to Walnut st.	263	15″	Clay		
	558	10″	Clay		
Marshall place, Eastern ave. to Walnut st	415	10″	Clay		1,577.08
	169	8″	Clay		
Cottage ave., Melrose st. to Marshall place	74	12″	Clay		
Merrick ave., King st., southerly	275	12″	Cem.	48.50	
	24	12″	Clay	29.26	
					77.76
Merwin st., North Main to Chestnut st	774	15″	Clay		....
Middlesex st., Wilbraham road, southerly	296	15″	Clay		
	304	12″	Clay		580.26
Mill river, intercepting sewer, Mill river to Locust st	370	5′-3″ cir.	Brick	6,066.64	
	691	4′-0″ cir.	Brick		
Locust to Hickory st	587	4′-0″ cir.	Brick		
	131	3′-6″x5′-3″	Brick		
	1,743	5′-9″ cir.	Brick	42,706.00	
	779	4′-3″ cir.	Brick		
	1,611	3′-3″ cir.	Brick		
*in Mill and Hickory sts.	833	2′-2″x3′-3″	Brick	9,355.23	
*Hickory st. to Gunn square brook by northerly shore of Watershops pond	4,495	2′-2″x3′-3″	Brick	45,545.71	
					103,673.58
Mill st., Main st., easterly	236	8″	Cem.	75.45	
Locust to Pine st	943	2′-6″x3′-9″	Brick	4,764.79	
Knox to Maple st	352	18″	Clay	668.24	
Dickinson st., easterly	325	24″	Clay	619.85	
					6,128.33

* Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Monmouth st., Dorchester st., northerly and easterly	199	12″	Clay	$218.15	
	171	10″	Clay	121.75	
Yale st., westerly	64	12″	Clay	45.95	
	278	10″	Clay	281.47	
Berkeley st., northwesterly	350	12″	Clay	235.62	
					$902.94
Monroe st., Hancock st. to Eastern ave.	611	18″	Cem.		
	789	15″	Cem.		1,983.29
Eastern ave. to Colton st.	316	12″	Cem.		
Monson ave., Greene st., northerly	200	8″	Clay		....
Montmorenci st., Chestnut to Massasoit st.	64	12″	Clay	74.82	
	612	2′-10″x4′-5″	Con.	2,725.07	
					2,799.89
Montrose st., State to Burr st.	338	15″	Clay		
	217	12″	Clay		75.74
	329	10″	Clay		
Moore ave., Plainfield st., westerly	299	12″	Clay		580.07
	435	10″	Clay		
Mooreland ave., Carew st., northerly to Van Horn ave.	601	18″	Clay		
	301	15″	Clay		1,467.66
	299	12″	Clay		
	212	10″	Clay		
Morgan st., Garden brook to Main st.	252	12″	Cem.	199.08	
	25	18″	Cem.	48.07	
Garden brook to North st.	634	18″	Clay	1,460.31	
					1,707.46
Morris st., Main st., easterly	915	2′-0″x3′-0″	Brick	2,942.83	
	496	12″	Cem.	359.07	
					3,301.90
Mountainview st., Forest Park ave., easterly	297	12″	Clay		28.19
	297	10″	Clay		
Mulberry st., Maple st., easterly and northerly	426	15″	Clay	885.41	
	270	12″	Clay		
	629	12″	Cem.	595.59	
	246	10″	Clay	233.59	
west from Ridgewood terrace	144	15″	Clay	....	
					1,714.59
Murray Hill ave., Liberty st., northerly	....	....	Clay		96.24
Myrtle st., Card Factory Pond brook, northerly	107	10″	Clay		69.76
	237	8″	Clay		

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Myrtle st., I. O., Main to Worcester st.	377	24″	Clay	$1,003.44	
Worcester st., southerly.	378	10″	Clay	355.34	
Berkshire st., southerly ..	180	10″	Clay	189.63	
Hampshire to Essex st...	275	10″	Clay	310.44	
					$1,858.85
Nelson ave., Greene st., northerly.	90	12″	Cem.	27.96	
Lebanon to King st.	188	10″	Cem.	126.54	
	67	10″	Clay	93.63	
					248.13
Nelson st., Nursery st., easterly.	308	24″	Clay		....
New st., E. Court st., northerly	237	12″	Cem.	213.02	
	33	8″	Clay	14.18	
Dwight st., westerly.	164	10″	Clay	203.79	
					430.99
Newland st., Plainfield st., westerly	350	18″	Clay		
	349	15″	Clay		1,735.99
	251	12″	Clay		
Newman st., Knox st., westerly	175	12″	Cem.		11.49
Noel ave., Mill st., southerly	204	20″	Clay		
	146	18″	Clay		569.64
Norfolk st., Wilbraham road, southerly	300	15″	Clay		
	300	12″	Clay	566.08	
	229	10″	Clay	155.85	
					721.93
North st., Ferry st., northerly	148	10″	Clay	223.34	
Carew st., northerly.	190	8″	Cem.	84.88	
Church to Grosvenor st..	68	18″	Cem.	157.13	
Morgan to Ringgold st...	198	18″	Cem.	356.84	
Osgood to Hebron st.	130	18″	Clay		
	165	10″	Clay	426.85	
Bancroft st. to Brookline ave.	302	18″	Clay	411.55	
Bancroft st., northerly ...	153	12″	Cem.		
	64	12″	Clay	217.15	
Jefferson ave., northerly..	233	8″	Clay	197.21	
Calhoun st., northerly ...	256	8″	Clay	48.13	
Waverly to Grove st. . . .	362	12″	Clay	302.86	
Harriet st., southerly ...	86	8″	Clay	....	
Harriet st., northerly	150	10″	Clay	106.43	
					2,532.37

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Northampton ave., Wilbraham road, southerly . .	1,101	12″	Clay	$830.79	
Gunn square, northerly . .	126	10″	Clay	103.71	
Gunn square to King st . . .	249	12″	Clay	325.24	
	202	10″	Clay		
					$1,259.74
North Church ave., Cook's ave., easterly	209	10″	Cem.		
Cook's ave., westerly (for cost see Cook's ave.) . . .	133	10″	Cem.		. . . .
No. Main st., Morgan st., southerly	232	8″	Clay	208.50	
Morgan st., northerly	173	8″	Clay	90.69	
Osgood st., southerly	199	10″	Clay	649.04	
Arch to Osgood st	730	15″	Cem.	713.66	
*Arch st. to Jefferson ave . .	185	2′-2″x3′-3″	Brick	974.27	
Jefferson ave. to Grove st . .	359	24″	Clay		
	420	20″	Clay	2,568.01	
	285	15″	Clay		
Grove st., northerly	170	12″	Clay	226.45	
Douglas to Harriet st	551	1′-8″x2′-6″	Brick	1,874.35	
Harriet to Waverly st	250	24″	Clay	470.75	
Douglas to Eagle st	326	2′-4″x3′-6″	Brick	1,840.24	
	272	1′-10″x2′-9″	Brick		
Eagle st., northerly	181	24″	Clay	538.21	
Wason ave., southerly . . .	215	2′-0″x3′-0″	Brick	860.00	
	349	1′-8″x2′-6″	Con.	1,577.72	
Wason ave., northerly . . .	600	12″	Clay	462.77	
Chicopee line, southerly .	106	15″	Clay	184.06	
					13,238.72
Norwood st., Main to Hanover st	1,051	12″	Cem.		1,156.64
Nursery st., Liberty to Franklin st	694	2′-8″ cir.	Brick	2,284.52	
Franklin st., northerly . . .	587	2′-8″ cir.	Brick	. . . .	
					2,284.52
Oak st., Union to State st . .	741	2′-0″x3′-0″	Con.	3,092.11	
Union to Tyler st	220	18″	Clay	752.00	
	268	15″	Clay		
Walnut to Tyler st	177	18″	Clay	339.99	
					4,184.10
Oak st., I. O., Chicopee river to Main st	684	4′-0″ cir.	Con.	4,353.51	
north from Main st	179	15″	Cem.	637.00	
	171	12″	Cem.		
Main st., southerly	590	2′-2″x3′-3″	Brick	2,345.84	
brick sewer to Hampshire st	797	24″	Clay	1,652.79	

* Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Hampshire st., southerly.	285	18″	Clay		
	300	15″	Clay	$1,562.43	
	400	12″	Clay		
					$10,551.57
Oak Grove ave., State to Center st.	349	18″	Clay		
	327	15″	Clay	....	
	254	12″	Clay		
Center st., northerly	621	10″	Clay	256.98	
Bay st., southerly	350	18″	Clay		
	350	15″	Clay		
	301	12″	Clay	1,258.01	
	325	10″	Clay		
					1,514.99
Oakland st., Belmont ave., southerly	311	10″	Clay	330.77	
Belmont ave. to Dickinson st	895	24″	Clay	2,218.71	
Dickinson to Orange st.	254	24″	Clay		
	350	18″	Clay	1,619.20	
	170	12″	Clay		
	218	8″	Clay	110.79	
Allen to Orange st.	625	18″	Clay		
	304	15″	Clay		
	193	12″	Clay	1,428.06	
	404	10″	Clay		
Sumner ave. to Garfield st.	280	12″	Clay	468.60	
	221	10″	Clay		
					6,176.13
Olive st., Eastern ave., to Logan st	540	10″	Clay		439.17
Orange st., Oakland st., easterly	583	8″	Clay		
White st., westerly	381	12″	Clay		
	649	10″	Clay		1,155.74
White st., easterly	924	10″	Clay		
Orchard st., Plainfield st., westerly	325	20″	Clay		
	301	15″	Clay		
	297	12″	Clay		1,015.67
	494	10″	Clay		
Orlando st., Sumner ave., southerly	127	12″	Clay		
	240	10″	Clay	310.17	
Belmont ave., northerly.	246	12″	Clay		
	193	10″	Clay	396.28	
					706.45
Orleans court, Orleans st., westerly	205	8″	Clay		....

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Orleans st., Union st., northerly	39	12″	Cem.	$36.23	
	310	12″	Clay	456.19	
	330	10″	Clay		
Tyler st., northerly	188	10″	Cem.	187.74	
Pendleton ave., northerly.	231	12″	Cem.	327.73	
					$1,007.89
Ormond st., Belmont to Sumner ave	275	10″	Clay		252.85
Osgood st., Garden brook to Main st	257	12″	Cem.	320.94	
Garden brook to North st.	340	24″	Clay	2,055.99	
	340	20″	Clay		
					2,376.93
Oxford st., Riverview terrace, northerly	63	12″	Clay	....	
	227	12″	Clay	512.94	
	291	10″	Clay		
					512.94
Ozark st., Grand ave., southerly	456	10″	Clay		61.80
Page boulevard, St. James ave., northerly	3,232	24″	Clay		9,894.55
Palmer ave., Locust st., easterly	351	18″	Clay	1,190.78	
	337	15″	Clay		
	14	12″	Cem.	....	
					1,190.78
Park st., Main to Willow st.	395	24′	Clay	1,609.31	
Willow to Maple st	200	24″	Clay	1,431.05	
	557	18″	Clay		
					3,040.36
Parker st., I. O., Chicopee river to Main st	32	24″	Clay	261.81	
	221	12″	Clay		
Main st., southerly	1,098	24″	Clay	2,486.05	
*Loon pond to B. & A. R.R.	1,227	12″	Clay	1,266.36	
					4,014.22
Parkside ave., Carew st. to Van Horn ave	350	18″	Clay		
	350	15″	Clay		1,180.15
	351	12″	Clay		
	300	10″	Clay		
Parkwood st., Sumner ave., southerly	215	12″	Clay		70.08
	204	10″	Clay		
Pasadena st., White st., southerly	156	12″	Clay		258.61
	291	10″	Clay		

* Surface drainage only.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Pasco st., I. O., Essex st., southerly	724	10″	Clay		$607.80
Patton st., Garden brook to Main st	214	10″	Clay	$173.73	
Garden brook, easterly	352	18″	Clay		
	349	15″	Clay	1,572.67	
	537	12″	Clay		
					1,746.40
Peabody lane, Willow st., westerly	292	10″	Clay		332.17
Pearl st., Chestnut to Spring st	514	24″	Clay	1,792.62	
	447	20″	Clay		
Spring st., easterly	190	1′-6″ cir.	Brick	96.16	
					1,888.78
Pease st., Catharine to Bowles st	250	12″	Clay		15.05
Pecousic ave., Mill river to Main st	352	2′-8″x4′-0″	Con.		2,155.17
Penacook ave., Governor to Home st	106	12″	Clay		76.42
Pendleton ave., Walnut to Hancock st	287	18″	Cem.		
	524	15″	Cem.	1,663.94	
	429	12″	Cem.		
Hancock st. to Eastern ave	600	18″	Cem.	1,494.53	
	793	15″	Cem.		
					3,158.47
Phoenix st., Liberty st., easterly	236	18″	Clay		
	250	15″	Clay		840.32
	89	10″	Clay		
Pine st., Mill to Cedar st.	740	2′- 6″x3′-9″	Brick		
	1,529	3′- 6″x5′-3″	Brick	13,659.54	
	500	3′-10″x5′-9″	Brick		
Cedar to Walnut st	62	18″	Cem.		
	884	15″	Cem.	1,781.65	
	631	12″	Cem.		
					15,441.19
Pine st., I. O., Main st., easterly	1,896	24″	Clay		4,170.03
Pine st. court, Pine st., easterly	348	10″	Cem.		266.39

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Pineywoods av., Washington boulevard, northeast'ly	334	15″	Clay	....	
	263	12″	Clay		
Magnolia terrace, westerly	350	10″	Clay	$25.62	
Magnolia terrace to Washington road	343	20″	Clay	.....	
	404	12″	Clay		
Washington road to Forest Park ave	341	12″	Clay	....	
					$25.62
Plainfield st., Sargeant to Fulton st	414	18″	Clay		
	537	15″	Clay	2,525.13	
	456	12″	Clay		
	244	10″	Clay		
Washburn to West st	154	12″	Clay	427.50	
	203	10″	Clay		
Washburn to Roseland st.	331	2′-8″x4′-0″	Brick	1,555.00	
	303	2′-6″x3′-9″	Brick	2,367.93	
	287	2′-4″x3′-6″	Brick	4,518.58	
	294	2′-2″x3′-3″	Brick		
Rowland to Division st	648	2′-2″x3′-3″	Con.	3,402.82	
	299	24″	Clay	1,419.29	
	208	15″	Clay		
Rowland st. to Talcott ave	288	24″	Clay	1,208.95	
	299	20″	Clay		
Talcott ave., northerly	216	10″	Clay	158.46	
Wason to Demond ave	304	24″	Clay		
	249	20″	Clay	1,277.68	
	53	18″	Clay		
					18,861.34
Pleasant st., Bay st., southerly	296	12″	Cem.		249.74
Plymouth st., Fulton st., easterly	375	10″	Clay		196.59
Pomona st., Sumner ave., northerly	580	12″	Clay	459.94	
	297	10″	Clay	204.92	
					664.86
Portland st., Birnie ave., easterly	251	12″	Clay		351.35
	224	10″	Clay		
Portsmouth st.	212	12″	Clay		253.65
Pratt st., Chestnut to Marvin st	350	15″	Clay		869.53
	299	12″	Clay		

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Prescott st., Belmont ave., northerly	340	10″	Clay		$195.22
Prince st., King to Lebanon st.	329	12″	Cem.		333.15
Princeton st., Bay to Amherst st.	103	18″	Cem.	$289.08	
	689	18″	Clay	724.15	
	151	15″	Clay	177.72	
Yale to Vassar st.	665	12″	Cem.	....	
St. Jaines ave. to Cornell st.	298	12″	Cem.	195.52	
					1,386.47
Private ways and private lands:					
Armory Hill sewer from Armory st., through private grounds east of Armory st. to Worthington st.	150	2′-5″x3′-7½″	Brick		5,318.04
	900	2′-8″x4′- 0″	Brick		
	249	2′-1″x3′-1½″	Brick		
Card-factory Pond, Woodworth ave., westerly between High and State sts.	751	12″	Cem.	408.75	
in front and around High school	492	24″	Clay	848.26	
High school to State st.	88	24″	Clay	192.35	
					1,449.36
Cemetery brook, Morris st., easterly, north of Central st.	174	24″	Clay		569.59
Chester to Hancock st.	218	8″	Clay		....
Garden brook sewer, north from Liberty st. to B. & M. R. R. via Arch st. about 300 feet east of Main st.	2,936	5′-6″ cir.	Brick		
	766	5′-0″ cir.	Brick	47,577.34	
	1,303	4′-6″ cir.	Brick		
	236	3′-0″x4′-6″	Brick		
Worthington st., northeasterly to Lyman st., thence via Railroad land to Armory st.	3,274	4′-7½″ cir.	Brick	29,761.32	
	952	4′-1″ cir.	Brick		
					77,338.66
Hickory to Melrose st. (see Melrose st.)	....	18″	Clay		....

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Jefferson ave., passage way in rear of lots on south side	135	2'-0"x3'-0"	Brick	....	
	518	12"	Cem.	$364.84	
					$364.84
Main to Dale st., between Hubbard ave. and William st.	655	12"	Cem.		441.92
Passage way, Ferry to Liberty st., 80 ft. east of Main st.	210	12"	Clay		402.70
Potter place, State st., northerly	396	15"	Clay		
	301	12"	Clay		....
	274	10"	Clay		
Sewer in ave. Hampden st. southerly, near Water st.	111	12"	Clay		147.14
Springfield st. and Glenwood, via Atwater Glen	677	3'-6" cir.	Brick		
	598	3'-3" cir.	Brick		
	389	4'-3" cir.	Brick		
	1,292	3'-0" cir.	Brick	14,614.89	
	40	2'-0" cir.	Brick		
	16	2'-10"x4'-3"	Brick		
	1,294	24"	Clay	3,889.98	
					18,504.87
Prospect st., Chestnut to Massasoit st.	218	18"	Clay		
	199	15"	Clay	623.53	
	196	12"	Clay		
Massasoit st., easterly	325	12"	Clay	802.39	
	423	10"	Clay		
					1,425.92
Pynchon st.	950	2'-0"x3'-0"	Brick		3,108.02
Quebec st., I. O., Lyons st., easterly	209	15"	Clay		402.82
Queen st., Walnut to Hancock st.	634	12"	Cem.		634.22
Quincy st., Oak to Stebbins st.	860	12"	Cem.	651.15	
Hancock to Stebbins st.	522	12"	Cem.	549.58	
Hancock st. to Eastern ave.	637	18"	Cem.	1,766.39	
	765	15"	Cem.		
Colton st. to Eastern ave.	208	10"	Clay	156.87	
					3,123.99

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Railroad st., Water st., easterly	351	12″	Clay		$490.75
Randolph st., Maplewood terrace, easterly	250	12″	Clay		22.96
	251	10″	Clay		
Ranney st., Wilmont st., southerly	85	10″	Clay	$96.04	
Wilmont st., northerly	200	10″	Clay	151.76	
Johnson st., northerly	301	12″	Clay	426.13	
	264	10″	Clay		
Kensington ave., northerly	206	10″	Clay	149.18	
					823.11
Rapalus ave., I. O., Parker st., southerly	442	12″	Clay		429.47
Raymond ave., Carew st., northerly	277	10″	Clay		217.32
Reed st., State st., southerly	219	12″	Clay		134.79
	309	10″	Clay		
Revere st., White st., southerly	750	20″	Clay		
	250	10″	Clay		23.32
	209	8″	Clay		
Richelieu court, Adams st., southerly	160	12″	Clay		525.44
	315	10″	Clay		
Richelieu place, Richelieu court, easterly	100	8″	Clay		....
Ridgewood place, Mulberry st., northerly	400	12″	Clay	29.46	
	76	10″	Clay	101.95	
					131.41
Ridgewood terrace, Mulberry st., westerly	226	10″	Clay	....	
Union st., southerly	137	10″	Clay	118.83	
					118.83
Rimmon ave., Greene lane to Weaver ramble	859	18″	Clay		....
Weaver ramble, northerly	200	12″	Clay		....
Ringgold st., North to Chestnut st	117	18″	Cem.		744.53
	632	12″	Cem.		
Ripley place, St. James ave., southerly	230	10″	Cem.		163.48
Riverview st., Riverview terrace to Chase ave	63	10″	Clay	....	
	310	10″	Clay	354.50	
Forest Park ave., southerly	299	10″	Clay	239.39	
					593.89

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Riverview terrace, Fort Pleasant ave., easterly	298	15″	Clay		
	322	12″	Clay		....
	105	10″	Clay		
Rochelle st., Wilbraham road, southerly	424	18″	Clay		$452.68
Rogers ave., I. O., Main st., southerly	97	15″	Clay		
	152	12″	Clay		312.13
Roseland st., Plainfield st., westerly	350	18″	Clay		
	350	15″	Clay		1,352.31
	173	12″	Clay		
Rowland st., Conn. river to North Main st., including 630′ in Douglas st.	579	5′-3″ cir.	Brick		
	51	1′-8″x2′-6″	Brick		32,489.36
	1,247	6′-6″ cir.	Brick		
	1,330	6′-0″ cir.	Brick		
Rutland st., Wilbraham road to State st.	199	8″	Clay		147.15
Rutledge ave., Main st., easterly	574	24″	Clay		49.43
Sachem st., Dickinson st., northerly	330	10″	Clay		345.31
Salem st., Pearl st., south and east	283	18″	Cem.		
	99	15″	Cem.		804.72
	290	12″	Cem.		
*Sanford st.	536	3′-2″x4′-9″	Brick		4,014.47
*Sargeant st., Fulton to Main (cost shown under Clinton st.)	920	4′-6″x6′-9″	Brick		....
School st., Union to Mulberry st.	560	15″	Clay	$620.95	
Union st., northerly	258	10″	Clay	256.85	
					877.80
Scott st., White to Pomona st	300	12″	Clay		
	347	10″	Clay		468.68
Searle place, Walnut st., easterly	178	10″	Clay		231.61
Seventh st., Fulton to Main st.	830	12″	Cem.		700.00
Sewer in avenue (see private ways).					
Sewer (see private ways).					
Sharon st., Garden brook to Main st.	209	15″	Clay		
	151	12″	Clay	945.67	
Garden brook, easterly	301	20″	Clay		
	300	18″	Clay		
	231	15″	Clay	2,355.50	
	232	12″	Clay		
					3,301.17

* Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Shattuck st., Maynard st. to	200	10″	Clay		
Willard ave	143	8″	Clay		....
Willard ave., easterly	50	8″	Clay		....
Shefford st., Springfield st.,	293	12″	Clay		
westerly	350	10″	Clay		$601.41
Sheldon st., Birnie ave. to	311	12″	Clay		
N. Main st	317	10″	Clay		18.49
Sherman st., Bay to Clarendon st	175	12″	Cem.	$571.12	
Bay to McKnight st	443	12″	Cem.		
State to McKnight st	301	18″	Clay		
	301	15″	Clay	1,314.14	
	544	12″	Clay		
					1,885.26
Shillingford st., Eastern ave. to Sheffield st	640	12″	Clay		447.45
Silver st., Armory st., easterly	302	15″	Clay		
	297	12″	Clay		470.93
Smith st., Knox to Dorne st.	199	12″	Clay	196.57	
Dorne st., westerly	107	10″	Clay	136.68	
					333.25
Sorrento st., Sumner ave., northerly	325	12″	Clay	271.15	
Grenada terrace, northerly	367	10″	Clay	209.65	
					480.80
Spencer st., Sumner ave., southerly	282	12″	Clay		
	315	10″	Clay		451.29
Spring st., south from Lyman st	281	15″	Cem.		
	130	12″	Cem		
Worthington to State st	470	18″	Cem.	2,569.51	
	640	15″	Cem.		
	644	12″	Cem.		
Worthington st., northerly	132	12″	Clay	87.28	
Worthington to Summer st	183	5′-0″ cir.	Brick		
*	49	4′-3″x6′-0″	Brick	1,498.24	
					4,155.03
Springfield st., Atwater terrace, northerly	892	20″	Clay		
	360	18″	Clay		
	413	15″	Clay		3,337.44
	286	12″	Clay		
	437	10″	Clay		

* Segmental.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Springfield st. and Glenwood (see private ways).					
Spruce st., Central st., northerly	600	12″	Cem.		$609.90
Spruceland ave., Magnolia terrace, westerly	67	8″	Clay	....	
Beechwood ave., easterly.	242	8″	Clay	$136.48	
Beechwood ave., westerly.	299	8″	Clay	94.83	
Longhill st., easterly	450	10″	Clay	410.40	
					641.71
Stafford st., Armory st., westerly	402	10″	Clay		239.85
State st., Water st., westerly	70	12″	Cem.	45.27	
	91	12″	Cem.	71.19	
	82	12″	Clay	83.01	
Water to Main st	907	18″	Clay	1,199.78	
Main to Dwight st	636	18″	Clay	1,433.50	
*Dwight st. to High school	29	2′-8″x4′-0″	Brick		
	265	2′-2″x3′-3″	Brick	4,897.66	
	417	2′-0″x3′-0″	Brick		
At High school, connecting old with new	54	24″	Clay	161.88	
High school to Elliott st..	305	2′-0″ cir.	Brick	469.65	
High school to Walnut st.	726	2′-0″x3′-0″	Con.		
	306	2′-2″ cir.	Con.	6,442.79	
	1,440	2′-0″ cir.	Con.		
connecting new with old..	54	18″	Clay		
Walnut to Oak st	250	18″	Clay		
	253	15″	Clay	1,678.37	
	348	12″	Clay		
Federal st., easterly	695	2′-0″ cir.	Brick	1,062.40	
	130	12″	Clay	274.35	
Oak to Buckingham st....	2,110	18″	Cem.	2,848.93	
Hancock to Sherman st..	1,147	3′-4″x5′-0″	Brick	13,555.85	
Sherman to Chapin st. ...	492	3′-0″x4′-6″	Brick		
Chapin to Andrew st.....	726	3′-0″x4′-6″	Brick		
Andrew st. to Oak Grove ave	937	2′-10″x4′-3″	Brick	10,793.96	
east from Oak Grove ave. to Cortland st	548	2′-4″x3′-6″	Brick		
	283	2′-2″x3′-3″	Brick	5,042.79	
	352	2′-0″x3′-0″	Brick		
Cortland st., easterly	355	24″	Clay		
	112	18″	Clay	4,586.74	
	3,399	12″	Clay		
					54,648.12

* Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Stearns square (west roadway), Bridge st., northerly	172	12″	Clay		$205.83
Stearns square (east roadway), Bridge st., northerly	167	8″	Clay	$67.00	
Worthington st., southerly	148	12″	Clay	342.98	
					409.98
Stebbins st., Union to State st.	300	12″	Clay		596.89
	293	10″	Clay		
Sterns terrace, Central st., northerly	393	12″	Clay		605.10
St. James ave., State st., northerly	191	18″	Clay		
	467	12″	Clay	906.01	
	123	10″	Clay		
Bay st. to Ripley place	91	12″	Cem.	135.23	
Florida st. to Ripley place	469	12″	Cem.	500.89	
Florida st., northerly	417	18″	Cem.	1,073.90	
	300	12″	Cem.		
Clarendon to Westminster st.	248	15″	Cem.	404.60	
Clarendon st., northerly	138	8″	Clay	64.82	
Dartmouth to Harvard st.	385	2′-0″x3′-0″	Brick	2,738.53	
Harvard to Princeton st.	528	24″	Clay	1,587.44	
Princeton st., northerly	308	18″	Clay		
	249	15″	Clay	965.55	
	57	12″	Clay		
Chicopee road to Page boulevard	127	24″	Clay	396.52	
					8,773.49
Stockbridge st., Main st., easterly	777	18″	Cem.		1,084.57
Suffolk st., Wilbraham road, southerly	300	15″	Clay	294.06	
	300	12″	Clay	596.52	
	795	10″	Clay		
					890.58
Sullivan st., Armory st., easterly	395	12″	Clay		40.41
*Summer st., Spring to Armory st.	44	4′-3″x6′-0″	Brick		
	†1,344	4′-2″x6′-3″	Brick		24,048.88
	†1,093	2′-10″x4′-3″	Brick		
	†750	3′- 8″x5′-6″	Brick		
Sumner ave., Fort Pleasant ave. to Longhill st.	448	12″	Clay	815.24	
	358	10″	Clay		

* Segmental. † Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Fort Pleasant ave. to Randolph st.	673	2'- 0"x3'-0"	Brick	$7,968.46	
Randolph st. to Washington road	360	1'-10"x2'-9"	Brick		
Washington road to Forest Park ave.	360	1'- 8"x2'-6"	Brick		
Forest Park ave. to Greenleaf st.	367	1'- 6"x2'-3"	Brick		
Greenleaf st. to Belmont ave.	355	20"	Clay	2,915.88	
	851	18"	Clay		
	736	15"	Clay		
	272	12"	Clay		
	426	10"	Clay		
Belmont ave., easterly	100	8"	Clay	37.49	
*Dickinson to White st	2,219	2'-8"x4'-0"	Brick	11,531.37	
White st. to Castle ave.	565	2'-2"x3'-3"	Brick	2,391.46	
	1,110	2'-2"x3'-3"	Con.	2,246.16	
	739	15"	Clay	1,645.60	
	879	12"	Clay		
					$29,551.66
Sumner terrace, Sumner ave., northerly	252	12"	Clay		440.44
	220	10"	Clay		
†Sycamore st., Acorn to Bay st.	899	8"	Clay		352.24
Sylvan ave., Belmont ave. to Fountain place	294	20"	Clay		1,136.42
	251	18"	Clay		
	249	15"	Clay		
Symonds ave., Worthington to Bridge st. (includes cost of Bond pl.)	300	15"	Cem.		696.89
Talcott ave., Fisk ave. to Plainfield st.	362	15"	Clay		549.57
	316	12"	Clay		
Taylor st., Main to Chestnut st.	330	20"	Clay	2,179.92	
	321	18"	Clay		
	197	15"	Clay		
	50	12"	Clay	51.79	
	341	12"	Cem.	463.50	
					2,695.21
Temple st., Maple to School st.	304	15"	Clay	1,127.60	
	300	12"	Clay		
	345	10"	Clay		
outlet into High school sewer	169	15"	Clay	171.71	
					1,299.31
Tenth st., Garden brook, easterly	300	18"	Clay		1,256.39
	302	15"	Clay		
	421	12"	Clay		
	4	8"	Clay		

* Elliptical. † Sanitary sewer.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Terrence st., Union to State st.	374	12″	Clay	$565.26	
	313	10″	Clay		
	48	10″	Cem.	34.02	
					$599.28
Thomas st., Birnie ave., easterly	451	10″	Clay		338.41
Thompson st., Worthington st., southerly	603	12″	Cem.	638.27	
St. James ave. to Bay st.	703	15″	Cem.	749.22	
State to Bay st.	852	12″	Cem.	653.12	
					2,040.61
Thorndyke st., Sumner ave., southerly	116	12″	Clay		148.93
Tracy st., Franklin st., southerly	14	10″	Clay	15.48	
	262	10″	Clay	.....	
					15.48
Trafton road, Dickinson st., westerly	351	18″	Clay		
	460	15″	Clay		923.68
	140	12″	Clay		
Trenton st., Dickinson st. to Commonwealth ave.	146	10″	Clay		125.74
Trillium st., White to Greenbrier st.	345	10″	Clay		216.74
Trinity terrace, Sumner ave.	300	12″	Clay		533.91
to Morningside park	416	10″	Clay		
Tyler st., Oak to Hancock st.	717	15″	Cem.	1,202.87	
	663	12″	Cem.		
Hancock st. to Eastern ave.	601	18″	Cem.	815.47	
	795	15″	Cem.	718.71	
Eastern ave., easterly	251	10″	Cem.	199.75	
					2,936.80
Union st., submerged outlet.	165	24″	Wood	1,604.45	
	48	24″	C. Iron	391.23	
Conn. river to Main st.	1,610	3′-4″x5′-0″	Brick	8,806.18	
	53	2′-0″x3′-0″	Brick		
Main to Oak st.	*718	3′-2″x4′-9″	Con.		
	951	2′-8″ cir.	Con.	13,447.59	
	1,021	2′-3″ cir.	Con.		
	1,504	2′-4″x3′-6″	Con.	7,638.58	
Oak to Orleans st.	404	15″	Cem.	467.96	
Hancock to Stebbins st.	261	2′-0″x3′-0″	Brick	2,307.33	
	335	1′-10″x2′-9″	Brick		
Stebbins to Orleans st.	428	20″	Clay	737.72	
Hancock st. to Eastern ave.	600	18″	Cem.	1,535.40	
	800	15″	Cem.		
Eastern ave., easterly	248	10″	Clay	152.56	
					37,089.00
Vassar st., Harvard st., northerly	550	12″	Cem.		153.37
Ventura st., Sumner ave., northerly	351	10″	Clay	289.51	
Grenada terrace, northerly	341	10″	Clay	223.28	
					512.79

* Elliptical.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Vermont st., Converse to	258	15″	Clay		
Pomona st.	267	12″	Clay		$524.78
	225	10″	Clay		
Vernon st., Water st., easterly	639	15″	Cem.	$837.92	
Main st., westerly	216	12″	Cem.	310.68	
					1,148.60
Vine st., Main to Fulton st.	697	12″	Cem.		688.75
Vinton st., Liberty to Franklin st.	357	12″	Clay	393.47	
	262	10″	Clay	252.13	
					645.60
Virginia st., Dickinson st. to	348	15″	Clay		
Trafton road	301	12″	Clay		731.42
	344	10″	Clay		
Walden st., Dickinson st., easterly	166	8″	Clay	94.93	
Commonwealth to Belmont ave.	296	10″	Clay	148.67	
					243.60
Walker st., Water st., westerly	650	12″	Clay		688.37
Walnut court, Walnut st., westerly	211	10″	Clay		188.15
Walnut st., south from State st.	69	1′-6″x1′-8″	Brick	85.23	
north from Charter ave.	292	10″	Clay	418.30	
Union st. to Charter ave.	279	12″	Cem.	482.50	
Union to Oak st.	558	12″	Clay	792.64	
	17	12″	Cem.	20.50	
Cedar to Pine st.	1,142	2′-0″x3′-0″	Brick	4,956.57	
Pine to Oak st.	254	18″	Cem.	383.04	
Hancock to Cedar st.	784	15″	Cem.	1,269.67	
Hancock st., southerly	180	12″	Cem.		
north from Manhattan st.	249	10″	Clay	212.35	
Florence st., northerly	53	8″	Cem.	27.12	
Hickory to Florence st.	1,026	12″	Clay	992.67	
					9,640.59
Walter st., Birnie ave. to No. Main st.	385	12″	Clay		422.74
Waltham ave., Wilbraham road, southerly	911	12″	Clay		953.07
Wareham st., Grand ave., southerly	419	10″	Clay		21.24
Warner st., Fort Pleasant	508	12″	Clay		
ave. to Longhill st.	198	10″	Clay	....	
	89	10″	Clay	51.88	
					51.88
Warriner ave., Locust st., easterly	448	12″	Clay		418.39
Washburn st., Conn. river to B. & M. R. R.	1,758	7′-0″ cir.	Brick		21,678.46

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Washington boulevard,					
Longhill st. to Pineywoods ave.	304	2′-4″x3′-6″	Brick	$5,032.68	
	823	2′-2″x3′-3″	Brick		
	308	18″	Clay	868.79	
	200	15″	Clay		
	242	12″	Clay		
	330	10″	Clay		
					$5,901.47
Washington road, Sumner ave., southerly	460	10″	Clay	56.78	
Pineywoods ave., northerly	141	10″	Clay	149.77	
	281	10″	Clay	....	
					206.55
Wason ave., Conn. river to Plainfield st.	451	3′-10″x5′-9″	Brick		
Plainfield st. to Fisk ave.	1,051	3′- 4″x5′-0″	Brick		
Fisk to Birnie ave.	634	3′- 2″x4′-9″	Brick		16,610.72
Birnie ave. to North Main st.	247	2′- 0″x3′-0″	Brick		
Water st., Gardner to Loring st.	474	1′-10″x2′-9″	Brick	1,219.79	
Loring st., northerly	345	12″	Cem.	237.38	
Union to Margaret st.	721	2′- 0″x3′-0″	Brick	2,367.61	
Union st., northerly	868	18″	Cem.		
Elm to State st.	275	18″	Cem.	508.75	
Elm to Pynchon st.	43	2′- 0″x3′-0″	Brick	198.00	
	498	2′- 6″x3′-6″	Brick	2,949.29	
Pynchon st., northerly	257	18″	Cem.	404.44	
	329	15″	Cem.	460.60	
	61	12″	Cem.	85.40	
Worthington st., southerly	209	10″	Clay	333.54	
Worthington to Hampden st.	327	15″	Cem.	457.80	
Hampden to Railroad st.	321	12″	Clay	638.58	
					9,861.18
Waverly st., North Main to Chestnut st.	473	20″	Clay		
	487	10″	Clay		1,268.03
Weaver ramble, Rimmon ave., westerly and northerly	480	12″	Clay		....
Webster st., Liberty to Franklin st.	601	12″	Clay		505.99
Welcome place, Bay st., northerly	238	8″	Clay		17.84

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Wellesley st., St. James					
ave. to Cornell st.....	236	12″	Clay		$540.30
	224	10″	Clay		
Wellington ave., Wilbraham	287	15″	Clay		
road, southerly.....	244	12″	Clay		23.58
	291	10″	Clay		
Wendell ave., Main st., east-					
terly.....	458	15″	Clay		....
West Alvord st., Sumner	153	24″	Clay		
ave. to Daviston ave..	268	20″	Clay		
	550	18″	Clay		1,546.17
	300	15″	Clay		
	412	12″	Clay		
Westernview st., Forest					
Park ave., easterly.....	468	12″	Clay		539.60
	138	10″	Clay		
Westford ave., Wilbraham	300	15″	Clay		
road, southerly.....	300	12″	Clay	$676.23	
	350	10″	Clay		
*Westford circle to King st.	541	12″	Clay	454.36	
					1,130.59
Westminster st., Bay to	300	15″	Clay		
State st.....	300	12″	Clay	705.11	
	201	10″	Clay		
St. James ave., southerly .	773	12″	Cem.	794.10	
					1,499.21
White st., Allen to Orange st.	747	24″	Clay	1,717.86	
	674	20″	Clay		
	274	18″	Clay	1,490.97	
Orange st. to Dawson ave.	388	15″	Clay	389.27	
	292	15″	Clay	275.73	
Gordon st. to Dawson ave.	192	10″	Clay	212.77	
Gordon st., southerly.....	690	12″	Clay	671.32	
	207	8″	Clay	84.45	
Sumner ave. to Lawrence					
st.....	1,266	24″	Clay	1,828.15	
Sumner ave. to Trillium	1,028	20″	Clay		
st.....	166	18″	Clay	2,300.75	
	329	12″	Clay		
Belmont ave. to Trillium	233	24″	Clay		
st.....	191	12″	Clay	1,008.39	
	210	10″	Clay		
Belmont ave. to Eleanor					
road.....	374	2′-8″x4′-0″	Con.	1,854.13	
					11,833.79
Whiting st., Plainfield st.,					
westerly.....	182	18″	Clay		238.85
Whitney ave., Water st.,					
westerly.....	450	12″	Cem.		257.32

* Sanitary sewer.

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Whittier ave., Sumner ave.	301	18″	Clay		
to Longfellow terrace .	299	15″	Clay		
	301	12″	Clay		$1,261.63
	221	10″	Clay		
Wight place, Water st., easterly	175	10″	Clay		240.47
Wilbraham ave., Wilbraham road, southerly	1,125	12″	Clay	$1,020.78	
Alden to Beverly st	999	10″	Clay	1,121.36	
	1,180	8″	Clay		
					2,142.14
Wilbraham road, State st., easterly	248	12″	Cem.	157.79	
State st. to Northampton ave	1,451	2′-0″x3′-0″	Brick	6,198.76	
Northampton ave. to	472	2′-6″x3′-9″	Brick		
Bristol st	476	2′-4″x3′-6″	Brick		
	478	2′-2″x3′-3″	Brick	8,970.16	
	473	2′-0″x3′-0″	Brick		
	254	1′-10″x2′-9″	Brick		
	256	1′-8″x2′-6″	Brick		
Bristol st., easterly	263	20″	Clay	859.35	
	405	12″	Clay		
					16,186.06
Wilcox st., Water st., easterly	548	15″	Cem.	1,000.75	
	327	12″	Cem.		
Water st., westerly	463	12″	Cem.	205.76	
					1,206.51
Willard ave., State st., northerly	282	18″	Clay		
	300	15″	Clay	785.26	
	241	12″	Clay		
Shattuck ave., southerly	215	8″	Clay	....	
					785.26
William st., Water to Main st	875	12″	Cem.	918.26	
	32	12″	Clay	125.28	
Main to Dale st	351	12″	Clay	906.35	
	288	10″	Clay		
Water st., westerly	76	15″	Cem.	459.79	
	425	12″	Cem.		
					2,409.68
Willow st., Cross to State st.	413	12″	Clay	791.42	
Cross to Park st	265	12″	Clay	378.17	
Union to Park st	216	18″	Cem.	325.32	
Union st. to Hubbard ave.	219	10″	Clay	204.39	
					1,699.30
Wilmont st., Dickinson to	349	18″	Clay		
Revere st	450	15″	Clay		1,557.40
	386	12″	Clay		

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SEWER SYSTEM.—CONTINUED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Winchester st.	424	12″	Clay		$357.96
Windsor st., Knox st., westerly	308	12″	Clay		560.76
	266	10″	Clay		
Winthrop st., Main st., easterly	52	18″	Cem.	$220.81	
	141	15″	Cem.		
	310	15″	Clay	1,045.76	
	230	12″	Clay		
					$1,266.57
Wolcott st., Armory st., northerly	220	10″	Clay	....	
	206	10″	Clay	192.49	
					192.49
Woodside terrace, Belmont ave., northerly	451	10″	Clay	321.97	
Forest Park ave., northerly	307	10″	Clay	....	
					321.97
Worcester ave., Plainfield st. to Fisk ave.	854	15″	Cem.		156.04
Worcester st., I. O., Myrtle to Chestnut st.	4	24″	Clay	945.80	
	290	20″	Clay		
	382	2′-0″x3′-0″	Brick	1,283.00	
Chestnut to Holly st.	670	1′-10″x2′-9″	Brick	2,398.09	
Oak st., easterly	275	12″	Clay	542.93	
	212	10″	Clay		
Pine st., easterly	546	20″	Clay	801.67	
	224	18″	Clay	344.66	
	349	15″	Clay	510.13	
					6,826.28
Worthington st., submerged outlet	194	24″	Wood	1,883.04	
	22	24″	C. Iron	176.25	
*Conn. river to Main st.	1,038	5′-7″x7′-0″	Brick	33,410.12	
*Main to Dwight st.	821	5′-4″x7′-0″	Brick		
Dwight to Garden brook	566	4′-0″x6′-0″	Brick		
Garden brook to Spring st.	738	4′-3″ cir.	Brick		
Spring st., branch north	35	5′-0″ cir.	Brick	4,361.35	
Spring st., branch south	47	2′-0″x3′-0″	Brick		
Spring st., easterly	40	18″	Cem.		
	242	15″	Cem.	614.35	
	251	12″	Cem.		
Autumn st., westerly	113	12″	Cem.	118.78	
near Sacketts ave.	145	10″	Cem.	111.47	
West brook, easterly	329	15″	Clay	1,110.54	
	217	12″	Clay		
West brook to Autumn st.	231	15″	Clay	727.56	
Sacketts ave., westerly	98	12″	Clay	207.28	
Sacketts to Kibbe ave.	337	12″	Cem.	335.37	
Kibbe ave. to Federal st.	794	15″	Clay	826.90	
Kibbe hollow, westerly to Magazine st.	167	18″	Clay	381.28	

* Elliptical.

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SEWER SYSTEM.—CONCLUDED.

NAME OF SEWER.	Length in Feet.	Size.	Material.	Cost.	
Kibbe hollow to Bowdoin st.	833	2′-2″ cir.	Con.	$2,357.86	
near Magazine to Bowdoin st.	248	2′-8″x4′-0″	Brick		
	354	2′-1″x3′-1½″	Brick	20,646.21	
Bowdoin st. to St. James ave.	359	3′-4″x7′-2″	Brick		
	1,307	3′-4″x6′-9″	Brick		
					$67,268.36
X Court, Dickinson st., westerly and southerly	34	10″	Clay	84.24	
	192	10″	Clay	19.05	
					103.29
Yale st., Dartmouth to Princeton st.	350	24″	Clay		
	359	18″	Clay	1,770.13	
	233	15″	Clay		
Princeton st., northerly	712	12″	Clay	452.46	
					2,222.59
York st.	1,203	7′-0″ cir.	Brick		13,912.27
Total	682,242				$1,564,474.68

NOTE.—Sewers constructed by the city on private land or ways are indexed under Private ways.

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RECAPITULATION BY SIZES.

DESCRIPTION.	Length in Feet.	Size.	Material.
Segmental	93	6′- 0″x4′- 3″	Brick and cem. mortar.
Elliptical shaped	1,038	5′- 7″x7′- 0″	" " "
" "	821	5′- 4″x7′- 0″	" " "
" "	1,095	4′-10″x7′- 3″	" " "
" "	1,949	4′- 8″x7′- 0″	" " "
" "	1,170	4′- 6″x6′- 9″	" " "
" "	1,040	4′- 4″x6′- 6″	" " "
" "	2,340	4′- 2″x6′- 3″	" " "
" "	1,746	3′- 8″x5′- 6″	" " "
" "	330	3′- 4″x5′- 0″	" " "
" "	536	3′- 2″x4′- 9″	" " "
" "	819	3′- 0″x4′- 6″	" " "
" "	1,093	2′-10″x4′- 3″	" " "
" "	2,506	2′- 8″x4′- 0″	" " "
" "	5,778	2′- 2″x3′- 3″	" " "
" "	417	2′- 0″x3′- 0″	" " "
Egg shaped	566	4′- 0″x6′- 0″	" " "
" "	1,131	3′-10″x5′- 9″	" " "
" "	1,074	3′- 8″x5′- 6″	" " "
" "	3,512	3′- 6″x5′- 3″	" " "
" "	359	3′- 4″x7′- 2″	" " "
" "	1,307	3′- 4″x6′- 9″	" " "
" "	8,787	3′- 4″x5′- 0″	" " "
" "	1,056	3′- 2″x4′- 9″	" " "
" "	2,877	3′- 0″x4′- 6″	" " "
" "	953	2′-10″x4′- 3″	" " "
" "	364	2′- 9″x4′- 1½″	" " "
" "	2,516	2′- 8″x4′- 0″	" " "
" "	4,818	2′- 6″x3′- 9″	" " "
" "	498	2′- 6″x3′- 6″	" " "
" "	150	2′- 5″x3′- 7½″	" " "
" "	8,636	2′- 4″x3′- 6″	" " "
" "	8,688	2′- 2″x3′- 3″	" " "
" "	603	2′- 1″x3′- 1½″	" " "
" "	18,874	2′- 0″x3′- 0″	" " "
" "	4,921	1′-10″x2′- 9″	" " "
" "	2,432	1′- 8″x2′- 6″	" " "
" "	917	1′- 6″x2′- 3″	" " "
" "	669	1′- 4″x2′- 0″	" " "
Circular	3,017	7′-0″	" " "
"	3,019	6′-6″	" " "
"	1,330	6′-0″	" " "
"	1,743	5′-9″	" " "
"	3,842	5′-6″	" " "
"	949	5′-3″	" " "
"	2,257	5′-0″	" " "
"	3,274	4′-7½″	" " "
"	1,762	4′-6″	" " "
"	3,362	4′-3″	" " "

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RECAPITULATION BY SIZES.—CONCLUDED.

DESCRIPTION.	Length in Feet.	Size.	Material.
Circular	952	4′-1″	Brick and cem. mortar.
"	2,399	4′-0″	" " "
"	385	3′-9″	" " "
"	677	3′-6″	" " "
"	2,209	3′-3″	" " "
"	2,549	3′-0″	" " "
"	2,072	2′-8″	" " "
"	1,520	2′-0″	" " "
"	190	1′-6″	" " "
Elliptical	416	2′-10″x4′- 3″	Brick-concrete.
"	245	3′- 0″x4′- 6″	" "
Segmental	60	5′- 0″x2′- 1″	Concrete.
Elliptical	385	4′-10″x7′- 3″	"
"	1,085	4′- 2″x6′- 3″	"
"	718	3′- 2″x4′- 9″	"
"	612	2′-10″x4′- 5″	"
"	1,637	2′-10″x4′- 3″	"
"	374	2′- 8″x4′- 0″	"
"	1,504	2′- 4″x3′- 6″	"
Egg shaped	352	2′- 8″x4′- 0″	"
"	1,365	2′- 6″x3′- 9″	"
"	191	2′- 4″x3′- 6″	"
"	3,031	2′- 2″x3′- 8″	"
"	1,702	2′- 0″x3′- 0″	"
"	349	1′- 8″x2′- 6″	"
Circular	1,004	4′-9″	"
"	684	4′-0″	"
"	1,940	2′-8″	"
"	1,484	2′-3″	"
"	1,139	2′-2″	"
"	1,440	2′-0″	"
"	34,612	24″	Clay pipe.
"	24,843	20″	" "
"	40,625	18″	" "
"	59,914	15″	" "
"	122,523	12″	" "
"	106,956	10″	" "
"	14,661	8″	" "
"	287	6″	" "
"	19,698	18″	Cement pipe.
"	33,451	15″	" "
"	59,278	12″	" "
"	4,285	10″	" "
"	822	8″	" "
"	120	24″	Cast-iron pipe.
"	28	18″	" "
"	726	24″	Wood pipe.
"	290	18″	" "
Miscellaneous shapes	919		Brick and cem. mortar.
Total	682,242		

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GENERAL CLASSIFICATION, 1912.

	Feet	Miles
Brick and cement mortar	137,406	26.024
Brick-concrete	661	.125
Concrete	21,056	3.988
Clay pipe	404,421	76.595
Cement pipe	117,534	22.26
Cast-iron pipe	148	.028
Wood pipe	1,016	.193
Total	682,242	129.213

SUMMARY OF SEWERAGE STATISTICS.

(In form recommended by Sanitary Section of Boston Society Civil Engineers.)

For the Year Ending December 1, 1912.

SPRINGFIELD, MASSACHUSETTS.

GENERAL.

Population by census of 1910, ... 88,926
Total area of city or town, ... 38 square miles.
Area served by sewerage system, ... 8 square miles.
Collection system, { For sewage only, ... 1.92 miles.
For sewage and surface water, . . . 126.68 miles.
For surface water only, ... 0.60 miles.
Method of disposal,—Gravity flow to Connecticut River.

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COLLECTION.

Mains (Everything but House and Catch Basin Connections).

		For sewage only.	For sewage and surface water.	For surface water only.
2.	Lineal feet brick,		137,406	
3.	" " concrete,		21,717	
4.	" " pipe,	10,113	509,803	3,203
5.	" " pipe extended during year,	3,359	19,236	445
6.	Number of inverted siphons,		1	
8.	Method of flushing: By connections with the water system.			
9.	Method of cleaning: By scrapers and flushing.			
11.	Number of direct connections with water mains for flushing,	5	511	
12.	Number of flushings of entire system during year,		26	
13.	Cost of flushing, per mile,		$16.64	
14.	Cost of cleaning, per mile,		$17.27	
17.	Number of storm overflows,		16	
18.	Method of ventilation: By manholes and well holes and through house stacks.			

HOUSE CONNECTIONS.

1.	By whom made:	By Sewer Department as far as street line.
2.	Sizes,	6″ and 8″
3.	Number made during year,	474
4.	Lineal feet laid during year,	About 13,000
7.	Average cost per foot, connections made during year,	$0.40

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FINANCIAL.

CONSTRUCTION.

Receipts		Expenditures.	
Appropriation, . . .	$30,000.00	Collection works: —	
		(a) Mains, ...	$39,906.11
		(b) House connections,	5,014.93

MAINTENANCE AND OPERATION.

Balance of previous year, $ . . .		Administration, . . .	$3,422.41
		Tools and supplies and materials, ...	326.03
Appropriation, ...	21,700.00	Repairs, ...	1,072.59
Transfers from other departments .	1,027.22	Automobile, Teams, City Yard and engineering,	3,103.65
Assessments, ...		Cleaning sewers, . . .	2,231.61
Rentals, ...		Cleaning catch basins, .	*932.15
Other sources, ...		Flushing sewers, . . .	2,149.99
		Work chargeable, . .	1,646.38
		Unclassified expenses, .	608.43
		Balance, ...	2,243.09
Total, ...	$61,727.22		$61,727.22
		Amount paid in interest, 1912, ...	8,195.00

* Paid from Street Department funds.

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GENERAL.

Total cost of collecting mains to date,	$1,564,474.68
Bonded debt at date,	240,000.00
Value of sinking fund at date,	58,768.00
Average rate of interest on bonds,	3½%
Proportion of cost of system paid for by abutters in fees,	50%+

Methods of assessing abutters and rate of assessment: —

Entrance fee of fifty ($50) dollars for dwelling houses.

For buildings used for business purposes two (2) cents per square foot of area covered by the building for the two lower stories, and an additional charge of one half (½) cent per square foot of area covered by the building for each additional story.

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CITY ENGINEER.

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REPORT OF THE

CITY ENGINEER.

CITY OF SPRINGFIELD, MASS., December 28, 1912.

To the City Council:—

In accordance with the provisions of the City Ordinances, the annual report of the Engineering Department for the year 1912 is respectfully submitted, with a statement of receipts and expenditures and a general description of the more important work, also such suggestions as have been considered in order.

FINANCIAL STATEMENT.

RECEIPTS.

Annual appropriation for the year 1912	$13,200 00	
Receipts from other city departments	2,797 36	
Transferred from Reserve Fund	1,800 00	
		$17,797 36

EXPENDITURES.

Salaries of City Engineer and assistants	$13,236 01	
Office rent and lighting	574 36	
Drawing materials, stationery and general supplies	519 68	
Car fares, automobile service and sundry office expenses	780 97	
		15,111 02
Balance unexpended		$2,686 34

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DESCRIPTION OF EXPENDITURES FOR SALARIES.

ENGINEERING DEPARTMENT.

For all services performed on account of matters referred to the Board of Public Works by the City Council relating to the laying out or alteration of streets, sidewalks, sewers, and parks; for surveys and levels, plans and profiles, estimates of cost, releases from damages, reports to the City Council, and general correspondence and interviews relating to matters referred to the Board, and all clerical work performed relating to public hearings and all meetings of the Board; measuring and assigning house numbers, work upon house number books and records; furnishing street lines and grades to individuals for buildings, grading, fencing, and sidewalk construction; surveys, estimates, and all general services performed for the various committees of the City Council; general map, plan and profile drawing of streets, sewers, and public property for office records and for future reference; measuring and recording all sewer connections for house drains and furnishing lines and grades for same; preparation of plans and photographs for the City Solicitor's use; indexing plans and other office records; photographing and blue printing; examination of deed records, setting of street monuments, and all other services not charged to other city departments, the sum of $9,527.03

HIGHWAY DEPARTMENT.

For all services performed on account of and charged to the street work appropriation; estimates and plans, lines and grades for paving, macadam and gravel, final measurements, inspection of new paving and repairs, and bridge repairs and maintenance, and all other incidental work, the sum of $959.32

SIDEWALKS AND CURBING.

For all services performed for the general sidewalk and curbing appropriation; lines and grades for laying out and for

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construction, measurements for assessments, and all work incidental thereto, the sum of $580.17

SPRINKLING STREETS.

Measuring streets and private ways and computing areas, the sum of $6.09

LOCUST STREET LAYOUT.

Construction surveys, staking out lines and grades, general supervision and direction, and all incidental work, the sum of $102.35

BIRNIE AVENUE EXTENSION.

Construction surveys for street and retaining wall masonry, staking out grades and general supervision and direction, the sum of $547.01

SEWER DEPARTMENT.

For all services performed on account of the general sewer appropriation; plans, estimates, laying out of work and general supervision of construction details, and all other incidental work, the sum of $489.41

ASSESSORS' DEPARTMENT.

Surveys and plans, computations of areas and dimensions for plans of private property, examination of deed records, and corrections of old plans, the sum of $395.48

PARK DEPARTMENT.

Lines, levels and grades for Trafton road; walk grades for Washington boulevard, the sum of $48.61

PLAYGROUNDS.

Survey of lot and setting bounds at Emily Bill playground, the sum of $27.72

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PAGE BOULEVARD.

Staking out lines and grades and general supervision; laying out and construction, the sum of $106.39

GARBAGE REDUCTION PLANT OR GARBAGE DISPOSAL.

Levels for sewer, and survey of lot, the sum of $45.63

FIRE DEPARTMENT.

Line for retaining wall at Patton street engine house, the sum of $3.65

RIVER FRONT.

Plans and maps for development and cost of Robinson plan, the sum of $277.84

MAP OF CITY.

Map of Springfield for use in Municipal Building, the sum of $56.31

MUNICIPAL GROUP.

Laying out sidewalks and grounds, the sum of $12.36

WALKER LITHOGRAPH PUBLISHING COMPANY.

Work on City map, the sum of $15.00

HIGH SCHOOL OF COMMERCE.

Borings and test pits for examination of soil to determine suitability for foundation, the sum of $35.64

$13,236.01

GENERAL WORK.

The department has responded to all requests made during the year in the usual way, the large number and miscellaneous character of these calls making it difficult to provide at all times in a manner satisfactory to the department.

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STREET WORK.

As considerable of the service performed by the department relates to streets and sidewalks, it will be seen that opportunity is afforded for general observation and study of results obtained.

A very commendable effort has been made during recent years on the part of engineers and superintendents concerned with street and road improvements to find a material for surface treatment of macadam roads that shall secure results in the main similar to those obtained from the more enduring and expensive forms of so-called permanent paving. Many of these methods of treatment have been shown conclusively to be inadequate to meet the conditions imposed, due to the character of the traffic.

TAR AND ASPHALT METHODS.

The various forms of surface treatment with tar materials have, in the main, been shown to be of little service especially when applied as a binding and strengthening material, and the constant repairs and renewals of this form of road surface, as applied to state roads and city streets, demonstrates the temporary character of such work.

Doubtless the quality of tar bitumen is not sufficiently dependable or stable to be satisfactory for such use.

ASPHALT PRODUCTS.

The numerous varieties of bitumen known as asphalt have been conclusively shown to be more satisfactory and stable as a binding material for street and road work than tar products, and will doubtless be extensively used in future work. It has been shown that, at small added expense per square yard, a macadam street or road can be laid with asphalt as a binding material that shall penetrate to a greater depth of the road material. This kind of work will, it is believed, be found

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better adapted to city streets of lighter traffic and outlying roads than any form of construction in which tar products are used.

The severe nature of the effect on macadam streets and roads, occasioned by the heavier automobiles propelled at high speeds, shows that a more substantial kind of road construction must be used than the surface treatments so largely experimented with during recent years.

The street work of the year has included the general improvement of Sumner avenue and Belmont avenue with macadam in which Texas and Bermudez asphalt were used for a depth of about three inches of macadam material. This work has cost about $1.15 per square yard and good results are expected. This kind of macadam road requires the use of about two gallons of asphalt per square yard, and according to expert opinion it is doubtful if a satisfactory and enduring street surface can be obtained by the use of a smaller quantity of bitumen.

ENDURITE.

Endurite pavement was introduced in this city for the first time this year, and Pearl street, from Chestnut to Spring; Oak street, from State to Walnut; Charles street, from Liberty to Franklin; and Chestnut street, Worthington to Bridge and from Pearl to Mattoon street, have been paved with this material. As this method of treatment is confined to the upper part of an old macadam surface of the water bound variety, it is not expected that it will prove as enduring as the methods extending the full depth of the broken stone or macadam.

The cost of the endurite, which was laid under contract, was $1.33 per square yard.

MACADAM. COST AND AMOUNT.

The total quantity of macadam laid of all kinds amounts to 100,271 square yards and cost $96,688.

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NEW STREET EXTENSIONS.

LOCUST STREET.

Locust Street extension was graded and left unfinished in the late season of 1911. During the present year a double track street car line has been added and a macadam roadway provided the full length of the extension, the street having been opened to public travel and is now complete.

BIRNIE AVENUE.

The work of extending Birnie avenue, from Arch to Plainfield street, was commenced early in the summer and the work prosecuted regularly until the middle of September, at which time all rough grading had been performed, and retaining wall masonry completed; also the reinforcing of the foundation of a section of the westerly retaining wall abutting on the Boston and Maine railroad property had been about two thirds completed. Owing to a train of circumstances over which this department had no control the work was abandoned for a considerable part of the remaining fall season. There now remains the completion of macadam roadway, the construction of a sidewalk on the westerly side of street and the erection of iron railings on retaining walls. This work, when finished, will complete a most valuable connecting link between the Brightwood district and the business part of the city, filling a long felt need.

PAGE BOULEVARD.

The demands of the unusual real estate activity and large manufacturing interests in the northeast section of the city, known as East Springfield, have been met by the laying out of a new thoroughfare from 70 to 85 feet wide, extending from St. James avenue to Highland terrace. A street car track has been laid and one half of the roadway macadamized for

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full length. A sewer also is now being laid which will extend the full length of the layout.

A petition is now before the Board of Public Works asking for the acceptance as public ways of Highland terrace and St. James boulevard, from Page boulevard to the locality of the new Hampden Railroad crossing and passing the new plant of the Stevens-Duryea Automobile Company.

PAVING.

The policy has been followed, as in previous years, of extending the permanent paving as far as available means will permit.

The creosoted long leaf yellow pine block has been used, as for the last eleven years, laid on a concrete base. The wood block pavement continues to meet the approval of the public, affording a smooth and sanitary surface, and at the same time more nearly noiseless than any form of enduring paving material. Its cost is greater than any other form of pavement used here, the cost of the blocks alone, delivered here on the cars, being $1.94 per square yard. Through competition bids received early in the season the price was reduced from $2.10 per square yard to the figures above mentioned. All wood block paving work has been performed, as for many years, by the city, under the able direction of the Superintendent of Streets. A four and one half inch concrete base was used and the joints filled with sand.

The total cost to us of the wood paving amounts to $39,374.00, a total of 12,515 square yards having been laid at an average price per yard of $3.15.

BITULITHIC.

Chestnut street, between Bridge and Pearl streets, was paved under contract at a price per square yard of $2.50, 952 square yards having been laid, the price including a concrete base.

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PAVING REPAIRS.

A considerable amount has been expended in repairs to bitulithic and asphalt pavements, amounting to the sum of $7,003.97 and covering an area of 3,343 square yards. Of the above repairs 1,383 square yards were due to cuts made for the various kinds of underground conduits and 1,960 square yards were from defects due to ordinary wear and tear. All repair work was done by contract. From the above it will be seen that the repairs to bitulithic pavements, due to ordinary wear, is still a very considerable amount, as has been the case for several years, or since the first year or two of the beginning of the laying of this form of pavement. Doubtless a considerable expenditure will be required for some years in the future for annual repairs to this form of pavement.

MUNICIPAL REPAIR PLANT.

In view of the area of bitulithic and asphalt pavements now laid, it is advised, in view of the large amount of annual repairs, that due consideration of the purchase and use of a repair plant be made, that shall be owned and operated by the city. This practice is getting to be quite common in many cities and good results are secured thereby, at the actual cost of the work, saving to the city the profit of the contractor. There seems no good reason why economical and satisfactory results should not be obtained, as in the case of other departments of work successfully executed by departmental work rather than by contract.

SEWERS.

The usual expenditure has been made for new extensions and relaying of old sewers during the year. Pursuing the policy followed in recent years, cement concrete has been used for all sewers larger than 24-inch vitrified pipe. The continual use of cement concrete has shown its durability and

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all around desirable features for sewer construction. No injurious effects have been observed from chemical action and a very considerable saving is effected when compared with the cost of brick sewers of the same capacity.

EAST SPRINGFIELD SYSTEM.

The unusual activity in East Springfield in real estate and manufacturing development demanded consideration for a sewer system. The erection of a large manufacturing plant by the Stevens-Duryea Automobile Company required prompt action. After due consideration and study it appeared that the most feasible plan would be found in the extension of the Garden Brook sewer from Armory street a distance of about 2¼ miles northeasterly, through the valley between the railroads and across the Boston and Albany railroad, through Chicopee road, Page boulevard, Highland terrace and in St. James boulevard to the proposed easterly terminus. Construction was begun in the fall season at St. James avenue and has progressed through Page boulevard and is still in progress at time of this report. So far, the sewer, as laid, consists of 24-inch vitrified pipe. The section from Armory street to St. James avenue, as ordered, will be of cement concrete, and this work will be deferred until the following summer season. The total cost of this sewer has been estimated at $72,100.00.

SEWER ENTRANCE FEES.

In a conference between the Board of Public Works and the Finance Committee, and incidental thereto, the question of sewer fees or charges was mentioned, resulting in a request that the Board of Public Works should investigate and report upon the expediency of a change in the prices charged. Early in the study it was found that the method pursued in this city of charging a flat fee of $25.00 for an ordinary dwelling

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was most unusual as to method. It was also found that the price charged was much less than the average of other cities. Correspondence with other cities resulted in a reply from thirty cities, nearly all of which assess for the cost of sewers in part according to frontage, many of them also assessing for area.

The average charge for the thirty cities was found to be $54.00 per house lot, against the charge of $25.00 in this city. It was also found that prior to 1880 the price charged here for each house lot was $50.00, the price having been reduced that year to $25.00. From a special report made by a committee of the City Council to the Mayor and Aldermen of the same year, 1880, it was further found that the amount received in sewer fees prior to that date amounted to less than 25% of the cost of the sewer system. An order was finally passed, based on the detailed report of the Board of Public Works and the recommendation of the Committee on Sewers, in which a charge of $1.00 per front foot was established, with a minimum charge based on frontage of $50.00 per house lot. The above applies to ordinary dwellings, with a further charge according to building area for other structures at a rate of 2½ cents per square foot of building area for the two lower stories, and one half a cent per square foot for each additional story.

The passage of the above order met with a strong opposition from real estate men and others, which resulted in hearings and protests. The Committee on Sewers was requested by the Board of Aldermen to further investigate the matter of fees to be charged, which resulted in the passage of a final order December 23, 1912, in which $50.00 is to be charged per house lot as a flat rate without regard to frontage. Buildings other than ordinary dwellings are to be charged as provided in the previous order.

SIDEWALKS.

Portland cement concrete is fast superceding all other materials for sidewalk construction, and, in view of all around

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good qualities and reasonable first cost, is to be recommended. In view of the necessity that careful specifications should be observed and followed for cement sidewalk construction, it is advised that the practice heretofore followed of allowing property holders to construct their own sidewalks without supervision or inspection on the part of the city, should be discontinued, and all such work executed by the city.

The city Street Department with its trained officials and men is in a position to secure good work in sidewalk construction and at minimum cost.

BOARD OF PUBLIC WORKS.

The Board has passed through a year of unusual activity and several matters of more than the usual magnitude and importance have been referred to them by the City Council for investigation, hearings, and reports.

Since the establishment of the Board in 1872 the City Engineer has acted as clerk and engineer for the Board, attending all hearings and office meetings.

Among the more important matters reported by the Board was the widening and extension of Dwight street, from the Boston and Albany railroad to Mill River, involving an estimated cost of $1,400,000.00. Also reports will soon be made for the extensions of Dwight and Water streets under the Boston and Albany railroad, with costs estimated for Water street temporary structure, of $70,000.00, and for Dwight street, with permanent type of construction, $210,000.00. All three of the above recommendations are now in the hands of the City Council for further deliberation and final action.

The widening of Water street, between Whitney avenue and Bliss street, the widening and extension of Chestnut street, from Chicopee line to Mill River, the extension of Hillman and Taylor streets, and the laying out of a new thoroughfare on the hill section, from St. James avenue to Spring-

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field street, comprise the more important matters now before the Board.

In all, the Board has held 133 hearings and office meetings during the year.

TABULAR INFORMATION.

The usual tabular statements of details pertaining to the several classifications of work with which the department has had to do will appear with this report when printed.

DEPARTMENT EMPLOYEES.

The usual force of assistants has been employed during the year. Assistant Engineer Mr. Herbert E. Flint, as in former years, has directed the detail of the work and the office force. Assistants Mr. Edward G. Martin, Mr. Charles A. L. Wright, Mr. Ernest F. Young, Mr. Charles J. Hancock, Mr. Edward W. Burnett, Mr. Rowland W. Greenwood, Mr. Irving P. Salisbury, Mr. Ernest T. Reilly and Mr. Robert A. Palmer have made up the regular office force. There have also been employed a portion of the year, Mr. Charles D. Todd, Mr. Wallace C. Day and Mr. Albert F. Christensen.

Miss Alice M. Hancock has performed the usual duties of stenographer, typewriter, and general office clerk.

In closing I desire to thank the assistants for their co-operation in the work and the various city officials for the pleasant relations sustained and the courtesies extended.

Respectfully submitted,

CHARLES M. SLOCUM.

City Engineer.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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WORK ITEMIZED.

BRIDGES.

REPAIRS AND CARE.

	Description of Work.	Cost.
*Abbe avenue overhead crossing,	Painting and railing repairs,	$260 80
Armory street over B. & A. Railroad,	Floor repairs,	113 92
Armory street over N. Y., N. H., & H. Railroad,	Floor repairs,	55 40
Berkshire street, I. O., Red House crossing,	Floor repairs,	34 28
Ludlow—Indian Orchard,	Floor repairs,	18 96
Main street, I. O.,	Floor repairs,	221 66
North end, over Conn. River,	Replanking floor,	1,484 90
Old Toll,	Floor repairs and care,	595 06
Plainfield street,	Floor repairs,	138 35
South end, over Conn. River,	Strengthening floor system and laying wood blocks,	12,180 52
South end, over N. Y., N. H., & H. Railroad,	Laying wood blocks,	1,207 76
St. James avenue,	Floor repairs,	84 50
Sundry,	Floor repairs,	6 46
		$16,402 57

*Contract for labor painting paid in 1913.

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STREET CONSTRUCTION.

*GRADING AND GRAVELING.

Street.	Length in feet.	Area in sq. yds.	Total Cost.
Kensington avenue, completion,			$516 34
Knox street,	1,125	3,750	1,485 13
Lester street,	635	2,118	200 41
Maplewood terrace,			90 50
Riverview terrace,			440 02
Wilmont street, completion,			56 71
	1,760	5,868	$2,789 11

*Old gravel taken from new macadam streets was used in this work.

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STREET CONSTRUCTION.

MACADAM.

Street.	Limits.	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
*Amaron street—Tarine,		408	1,475	$0 56	$826 25
Belmont avenue—Texas penetration,	White street to the X,	3,634	19,434	97	18,791 99
Charles street—Endurite,		626	1,940	1 29	2,502 24
Chestnut street—Endurite,	Worthington to Bridge,	281	2,630	1 50	3,944 27
	Pearl street to Harrison avenue,	441			
Clarendon street—Trinidad,		140	1,204	87	1,048 89
Cornell street—Trinidad,		1,283	4,275	58	2,474 30
*Cumberland street—Tarine,	Main to North,	872	1,240	34	423 58
Dartmouth terrace—Trinidad,		488	2,544	53	1,358 10
*Donald street—Tarite,		444	1,480	70	1,038 83
Greene street,		1,347	4,490	48	2,171 12
†Locust street extension—Tarine,		2,495	7,682	1 96	15,080 15
Lowell street,		1,390	4,633	61	2,817 96
Mason street—Texas penetration,		661	2,203	1 07	2,350 45

*Includes some old rock used from other streets.

†In addition to cost shown above, $1,071 was charged Longhill street for hauling fillings from Locust street extension.

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STREET CONSTRUCTION.

MACADAM—CONTINUED.

Street.	Limits.	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
*Massasoit street—Tarine,	Prospect street to end of public street,	1,148	3,827	$0 62	$2,373 61
*Montrose street—Tarine,		973	3,242	63	2,042 47
Oak street—Endurite,		1,356	4,462	1 28	5,729 39
Orchard street,		1,040	3,467	57	1,962 63
Pearl street—Endurite,		983	2,817	1 28	3,605 00
Pineywoods avenue, completion of 1911,					86 50
Princeton street—Trinidad,	St. James avenue to Cornell street,	267	890	51	450 12
Ridgewood place,		537	1,193	51	609 64
Sumner avenue — Bermudez penetration,	Sumner terrace to the X, north side,	1,700	4,236	1 17	20,809 65
	White street to the X,	2,090	13,460		
*Walter street—Tarine,		390	1,300	69	891 88
Washburn street,		1,400	4,667	54	2,517 72
Wellesley street—Trinidad,		444	1,480	53	781 31
		26,338	100,271		$96,688 05

*Includes some old rock used from other streets.

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STREET MAINTENANCE.

MACADAM RESURFACING.

Street.	Limits.	Material.	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
Buckingham place,		Trinidad asphalt,	275	916	$0 054	$49 12
Buckingham street,	State to Clarendon,	Trinidad asphalt and Texas oil,	2,006	6,648	038	253 86
North street,	Liberty to Ferry,	Tarine,	196	1,002	459	459 92
Pecousic avenue,	Longhill street to 1030 feet south of South end bridge,	Texas penetration oil,	2,694	8,708	76	6,631 32
			5,171	17,274		$7,394 22

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STREET CONSTRUCTION.

RECAPITULATION.

	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
Macadam, water-bound,	5,714	18,450	$0 54	$10,079 07
Macadam, completion of 1911 work,				86 50
Macadam, with Texas penetration,	4,295	21,637	98	21,142 44
Endurite,	3,687	11,849	1 33	15,780 90
Macadam, with Trinidad surface,	2,622	10,393	59	6,112 72
Macadam, with Tarine penetration,	5,786	18,766	1 15	21,637 94
Macadam, with Tarite penetration,	444	1,480	70	1,038 83
Macadam, with Bermudez penetration,	3,790	17,696	1 17	20,809 65
	26,338	100,271		$96,688 05

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STREET CONSTRUCTION.

PAVING.

Street.	Limits.	Material.	Length in feet.	Area in sq. yds.	Cost per sq. yd.	Total Cost.
Belmont avenue,	At Fort Pleasant,	Mack blocks,		133	$3 00	$400 00
Chestnut street,	Bridge to Pearl,	Bitulithic,	201	952	2 50	2,380 68
East Court street,	Market to Dwight,	Wood blocks,	372	941	3 05	2,868 19
North Main street,	Grove to Thomas,	Wood blocks,	691	2,536	3 27	8,289 93
Sanford street,	Market to Dwight,	Wood blocks,	371	1,324	3 11	4,115 06
*South end bridge approach,		Wood blocks,	180	434		
State street,	Highland Div. N. Y., N. H. & H. Railroad to Amaron street,	Wood blocks,	1,106	4,271	3 14	13,404 78
Willow street,		Wood blocks,	1,189	3,443	3 11	10,696 38
			4,110	14,034		$42,155 02

*Cost given in table of bridges.

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STREET MAINTENANCE.

PAVING RESURFACING.

BITULITHIC SKIM-COATING.

Street.	Area in sq. yds.	Cost.
Bridge street,	387.90	$484 87
Maple street,	105.40	131 75
State street,	401.40	501 75
Taylor street,	418.30	522 88
Walnut street,	453.15	566 44
	1,766.15	$2,207 69

ASPHALT REPAIRS.

Street.		Area in sq. yds.	Cost.
Bridge street,	Rock asphalt,	99.96	$249 90
Court street,	Rock asphalt,	27.77	69 42
Elm street,	Rock asphalt,	21.03	52 58
Harrison avenue,	Trinidad asphalt,	45.70	114 25
		194.46	$486 15

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SIDEWALKS AND CURBING.

CONSTRUCTION AND RECONSTRUCTION.

By orders of the City Council.

Street.	Length in feet.	SIDEWALKS. Material.	SIDEWALKS. Description.	CURBING. Length in feet. 4″	CURBING. Length in feet. 6″	Order Approved.
Armory street,	3,585	Cement concrete,	New,			Dec. 12, 1911.
Belmont avenue,				5,335		May 28, 1912.
Benton street,				2,772		July 12, 1911.
Carew street,	356	Cement concrete,	New,			July 9, 1912.
Cumberland street,	146	Cement concrete,	New, with concrete curb,	384		June 6, 1911.
Eastern avenue,	433	Cement concrete,	New,			Nov. 29, 1911.
Eastern avenue,	493	Cement concrete,	New, with concrete curb,	631		June 6, 1911.
Pease street,	200	Cement concrete,	New,			Sept. 12, 1911.
Sumner avenue,				1,062		July 2, 1912.
Tenth street,	974	Brick,	Relaid,			Oct. 3, 1911.
Vermont street,				355		Oct. 24, 1911.
Washburn street,				2,674		Oct. 2, 1906.
Wilbraham road,	339	Cement concrete,	New,			July 13, 1911.
Worcester avenue,	914	Brick,	New,			Oct. 3, 1911.
Worcester avenue,	594	Cement concrete,	New,	1,528		Oct. 3, 1911.

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MACADAM REPLACED BY PAVING.

		Length in feet.	Area in sq. yds.
Chestnut street,	Bridge street to Pearl,	201	952
East Court street,	Market street to Dwight,	369	855
North Main street,	Grove street to Thomas,	691	2,536
Sanford street,	Market street to Dwight,	367	1,278
State street,	Highland Div. N. Y. N. H. & H. R. R. to Amaron street,	1,106	4,271
Willow street,		895	2,493
		3,629	12,385

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Barnes street,		Bitulithic,	178	552	1909
Belmont avenue,	At Locust and Mill streets,	Mack blocks,		133	1912
Belmont avenue,	Hall street westerly,	Catskill blocks,	1,362	1,211	1901
Belmont avenue,	Hall street to Oakland,	Metropolitan blocks,	1,023	914	1903
Birnie avenue,	Hooker street northerly,	Johnsonburg blocks,	145	483	1906
Bridge street,	Main to Dwight,	Rock asphalt,	688	2,525	1900
Bridge street,	Dwight to Chestnut,	Creo-resinate wood bl'ks, 3″ x 3½″ x 8″,	122	446	1910
		Asphalt blocks, 5″ x 12 ″ x 3″,	195	712	1910
Bridge street,	Main street, 493 feet westerly,	Bitulithic,	493	1,746	1905
Bridge street,	extension to Water street,	Bitulithic,	252	895	1911
Bridge street,	Water street to Old Toll bridge,	Granite blocks,	249	718	1907
Catharine street,	State to Bay,	Syracuse brick,	1,722	5,691	1900
Charles street,	Liberty to land of B. & A. R. R.,	Granite blocks,	150	376	1903
Chestnut street,	Pearl to Bridge,	Bitulithic,	201	952	1912
Chestnut street,	Worthington to Lyman,	Granite blocks,	472	1,673	1895
Chestnut street,	Lyman to B. & A. R. R.,	Granite blocks,	256	1,471	1889
Chestnut street,	B. & A. R. R. to Linden,	Granite blocks,	1,640	5,235	1892
Chestnut street,	Linden to Everett,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	419	1,438	1909

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Chestnut street,	Everett to Carew,	Granite blocks,	354	718	1893
Chestnut street,	Carew to Allendale,	Syracuse brick,	1,015	3,432	1900
Chestnut street,	Allendale to Jefferson avenue,	Bitulithic,	825	2,898	1905
Court street,	Main to Court Square avenue,	Rock asphalt,	317	1,149	1897
		Syracuse brick,	——	174	1897
		Syracuse brick,	——	128	1907
Court street,	Court Square avenue to Water st.,	Bitulithic,	617	2,699	1911
Court Square avenue,	Court to Elm,	Rock asphalt,	193	503	1897
		Syracuse brick,	——	330	1897
Cypress street,	Main street westerly,	Granite blocks,	459	1,700	1904
Cypress street,	Boylston to Fulton,	Granite blocks,	216	848	1905
Dwight street,	State to Lyman,	Syracuse brick,	2,824	9,905	1896
East Court street,	Main to Market,	Rock asphalt,	117	297	1900
East Court street,	Market to Dwight	Creo-resinate wood bl'ks, 3″x3½″x6″ to 10″,	372	941	1912
Elm street,	Main to Court Square avenue,	Rock asphalt,	343	949	1897
		Syracuse brick,	——	330	1897
Ferry street,	Main street to foot of hill,	Bitulithic,	1,389	3,597	1910
Fort street,	Main to Water,	Granite blocks,	670	1,770	1895
Fulton street,	Cypress to Vine,	Granite blocks,	1,125	3,006	1906

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Hampden street,	Main street westerly,	Bitulithic,	212	821	1904
Hampden street,	completion Main to Water,	Bitulithic,	394	1,539	1905
Harrison avenue,	Main to Dwight,	Trinidad asphalt,	586	2,247	1896
Hillman street,	Main to Dwight,	Bitulithic,	648	2,025	1906
King street,	St. Ry. turnout,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	317	1,023	1908
Liberty street,	Main street, easterly,	Bitulithic,	311	1,335	1911
Liberty street,	Chestnut to Cass,	Syracuse brick,	1,399	4,571	1900
Liberty street,	Cass to Heywood avenue,	Syracuse brick,	1,147	3,971	1901
Lyman street,	Main to Chestnut,	Granite blocks,	1,305	4,599	1889
Lyman street,	Chestnut street, easterly,	Granite blocks,	503	2,095	1908
Lyman street,	extension easterly to Spring st.,	Granite blocks,	228	949	1909
Main street,	Locust to Marble,	Syracuse brick,	840	4,381	1897
Main street,	Marble to William,	Syracuse brick,	1,762	8,307	1896
Main street,	William to Bliss,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	1,150	6,460	1906
Main street,	Bliss to State,	Syracuse brick,	241	1,355	1893
Main street,	State to Worthington,	Creo-resinate wood bl'ks, 3″ x 3½″ x 8″,	1,899	10,798	1904
Main street,	Worthington to Hampden, west side,	Creo-resinate wood bl'ks, 3″ x 3½″ x 8″,	382	1,183	1904

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Main street,	Worthington to Hampden, east side,	Creo-resinate wood bl'ks, 4″ x 4″ x 8″,	——	962	1903
Main street,	Hampden to Lyman,	Creo-resinate wood bl'ks, 4″ x 4″ x 8″,	153	775	1903
Main street,	Lyman to Liberty,	Creo-resinate grooved wood bl'ks, 4″ x 4″ x 8″,	484	2,780	1903
Main street,	Liberty to Sharon, east side,	Creo-resinate wood bl'ks, 4″ x 4″ x 8″,	453	1,135	1903
Main street,	Liberty to Sharon, west side,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	——	1,487	1907
Main street,	Sharon to near Franklin and Emery,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	509	3,103	1907
Main street,	near Franklin, east side,	Syracuse brick,	36	144	1907
Main street,	Franklin to Carew, east side,	Syracuse brick,	1,802	4,605	1897
Main street,	Emery to Sargeant, west side,	Catskill blocks,	1,447	5,449	1901
Main street,	crossing opposite Auburn street,	Catskill and Metropolitan blocks,	——	163	1903
Maple street,	Central to High,	Bitulithic,	1,563	5,665	1904
Maple street,	High to State,	Bitulithic,	593	2,530	1905
Market street,	State to Harrison avenue,	Bitulithic,	968	1,887	1906
North Main street,	Plainfield to Morgan,	Bitulithic,	730	4,485	1906

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
North Main street,	Morgan to Bancroft,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	879	4,544	1909
North Main street,	Bancroft to Calhoun,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	889	4,210	1910
North Main street,	Calhoun to Grove,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	673	3,466	1911
North Main street,	Grove to Thomas,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	691	2,536	1912
North Main street,	at Wason avenue,	Syracuse brick,	——	196	1908
Plainfield street,	Sargeant to Fulton,	Syracuse brick,	1,710	10,249	1902
Pynchon street,	Main to Water,	Bitulithic,	870	2,866	1911
Railroad street,	Main to Water,	Granite blocks,	516	1,539	1906
Sanford street,	Main to Market,	Rock asphalt,	102	207	1900
Sanford street,	Market to Dwight,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	371	1,324	1912
State street,	Main street, westerly,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	598	2,357	1909
State street,	Main to Dwight,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	478	2,403	1908
State street,	Dwight to City Library,	Granite blocks,	541	1,631	1890
State street,	Dwight to Chestnut (widened),	Granite blocks,	——	217	1896
State street,	Federal to Oak,	Syracuse brick,	847	4,590	1897

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
State street,	Oak to Stebbins,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	762	3,031	1909
State street,	Pleasant to Terrence,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	386	1,497	1910
State street,	Terrence to Westminster,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	639	3,256	1911
State street,	at Walnut,	Syracuse brick,	——	278	1908
State street,	at St. James avenue,	Syracuse brick,	——	183	1907
State street,	Sherman to Highland Div., N. Y., N. H. & H. R. R.,	Bitulithic,	820	4,352	1905
State street,	Highland Div., N. Y., N. H. & H. R. R., to Amaron street,	Creo-resinate wood bl'ks. 3″x 3½″ x 6″ to 10″,	1,106	4,271	1912
Summer street,	Spring to near Autumn,	Granite blocks,	567	1,512	1907
Summer street,	Autumn to Kibbe avenue,	Granite blocks,	1,259	4,029	1895
Summer street,	Kibbe avenue to point 85′ west of Federal,	Granite blocks,	787	2,635	1901
Taylor street,	Main to Dwight,	Bitulithic,	770	2,580	1904
Townsley avenue,		Bitulithic,	142	214	1908
Vernon street,		Bitulithic,	821	2,047	1911
Walnut street,	State to Union,	Syracuse brick,	638	2,144	1899
Walnut street,	Union to Pendleton avenue,	Syracuse brick,	873	3,140	1900

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TABLE OF PAVED STREETS.

Name.	Limits.	Material.	Length in feet.	Area in sq. yds.	Year Laid.
Walnut street,	Pendleton ave. to Lebanon st.,	Bitulithic,	1,195	3,888	1905
Walnut street,	Lebanon to Hancock,	Bitulithic,	1,005	3,334	1906
Walnut street,	at Ashley,	Bitulithic,	——	44	1911
White street,	Allen to Orange,	Syracuse brick,	1,610	2,400	1902
Willow street,		Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	1,189	3,443	1912
Worthington street,	Main to Dwight,	Syracuse brick,	739	2,544	1896
Worthington street,	Dwight to Fairbanks place,	Syracuse brick,	1,060	3,869	1901
Worthington street,	Fairbanks place to east line of Spring,	Syracuse brick,	269	1,003	1903
Worthington street,	Main to Broadway,	Bitulithic,	404	1,418	1905
Worthington street,	Broadway to Water street,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	299	1,061	1909
Worthington street,	at Sackett place,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	265	886	1908
Worthington street,	Federal to Armory,	Creo-resinate wood bl'ks, 3″ x 3½″ x 6″ to 10″,	874	1,312	1908
Total,			68,559	258,075	

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RECAPITULATION.

Material.	Length in feet.	Length in miles.	Area in sq. yds.	Material.	Length in feet.	Length in miles.	Area in sq. yds.
				Mack blocks,			133
Bitulithic,	15,401	2.917	54,369	Metropolitan blocks,	1,023	.194	996
Catskill blocks,	2,809	.532	6,741	Rock asphalt,	1,760	.333	5,630
Creo-resinate wood blocks,	15,809	2.994	72,128	Syracuse brick,	19,534	3.7	77,920
Granite blocks,	11,297	2.140	36,716	Trinidad asphalt,	586	.111	2,247
Johnsonburg blocks,	145	.027	483	Asphalt blocks,	195	.037	712
				Total,	68,559	12.985	258,075

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STREETS MADE PUBLIC.

By order of the City Council.

Name.	Limits.	Length in feet.	Width in feet.
Bristol street,	Wilbraham road to Gunn property,	1,458	50
Broadway,	Worthington to Vernon street,	719	60
Chicopee road,	Carew to Liberty street,	1,111	50
Commonwealth ave.,	Washington to Fairview street,	703	50
Greenacre square,	Foster to Foster street,	488	30
Groveland street,	Dickinson street to Longmeadow line,	657	50
Hollywood street,	Dickinson street to Belmont avenue,	816	50
Jasper street,	Berkshire avenue to Boston road,	947	50
Maple court,	Maple to Pine street,	689	25.3–34
Norman street,	Carew to Roy street,	961	50
Page boulevard,	St. James avenue to Highland terrace,	3,562	70
Roy street,	Chicopee road to Norman street,	290	50
Spencer place,*	Sumner avenue to N. Y., N. H. & H. railroad,	593	50
	2.461 miles.	12,994	

* Renamed Spencer street December 10, 1912.

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STREETS RELOCATED AND WIDENED.

By order of the City Council.

Name.	Limits.	Length in feet.	Width in feet.
Main street, I. O.,	Ludlow avenue, westerly,	376	
Water street,	Gardner street to Whitney place,	674	80

STREETS DISCONTINUED.

By order of the City Council.

Name.	Limits.
Old Sherman road,	Carew to Liberty street.

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CONCRETE SEWERS—1912.

STREET.	LIMITS.	Size and Shape.	Length in Feet.	Total Cost.	Total Cost per Lineal Foot.	No. of Manholes.	Total Cost of Manholes.	Width of Trench.	Average Depth of Cutting.	Material Excavated.
White st.....	Belmont ave. to Eleanor road	2'-8"x4'-0" elliptical	374	$1,854.13	$4.96	1	$32.31	5.0	12.0	Sand—sand filling.

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§SEWER CONSTRUCTION—1912.

STREET.	LIMITS.	VITRIFIED CLAY PIPE. Size in Inches. 24″	20″	18″	15″	12″	10″	Total Length.	Total Cost of Sewer.	Total Cost per lineal ft.	Average Depth of Cutting.	Width of Trench.	Material Excavated.
Albemarle ave....	Wilbraham road, southerly				300	314	421	1035	$971.81	$0.94	8.8	4.0	Sand and gravel
Atwater terrace..	Springfield st., northerly.....			1020				1020	1448.06	1.42	8.5	4.0	Clay and sand
Belvidere ave.....	Belmont ave., southerly.....		300	201				501	824.37	1.65	12.5	4.0	Sand
Biltmore st.....	Dickinson st. to Trafton road.....				350	349	351	1050	866.51	.82	9.0	3.5	Sand
Birnie ave. ext ...	Arch st., southerly.....						445	445			5.4	3.5	Blue clay
Blaine st..... ..	White to Greenbrier st.....	118						118	268.98	2.27	12.5	4.0	Sand
Chilson st..... ..	Sumner ave., southerly.....						226	226	153.57	.68	10.0	3.5	Sand
[1] Crane st.....	Franklin st., northerly.....						299	299	331.87	1.11	7.3	4.0	Sand, hard clay
Daviston ave.....	Allen st. to West Alvord ave.....						403	403	796.55	.72	8.1	3.5	Sand
Daviston ave.....	West Alvord to East Alvord ave						400	400			8.3	3.5	Sand
Daviston ave.....	East Alvord ave., southeasterly.....						299	299			7.9	3.5	Sand
Dunmoreland ave.	Wilbraham road, southerly.....				301	200		501	604.37	1.21	9.8	3.5	Sand
East Alvord ave...	West Alvord to Daviston ave.....			495		598		1093	956.64	.88	8.9	3.5	Sand
[2] Eddywood ave..	Sumner ave., northerly.....						328	328	436.66	1.33	11.0	3.5	Sand
[3] Franklin st.....	Webster st. to Murray Hill ave., extension.....						260	260	342.29	1.32	8.0	3.5	Sand and clay
[4] Goodrich st....	Liberty st., northerly.....						240	240	460.87	1.92	4.7	4.0	Sand and clay
Greenbrier st.....	Larkspur to Trillium st.....						300	300	291.24	.51	7.2	3.5	Sand
Greenbrier st.....	Blaineto Trillium st.....						270	270			9.3	3.5	Sand
[5] †Knox st.....	Smith to Windsor st.....	866						866	1,988.46	2.30	8.0	4.3	Clay and sandy loam
Larkspur st.....	White st., easterly.....				299	304	101	704	484.95	.69	7.5	4.0	Sand
Lowell st.....	At Connecticut river.....					70		70	77.03	1.10		3.0	Sand and marl
Mapledell st.....	Extension northerly to Burr st.....						42	42	62.54	1.49	4.5	3.0	Sand
Marlboro ave.....	State st. to Wilbraham road.....					300	449	749	537.09	.72	7.0	3.8	Sand
Mo re ave.....	Plainfield st. to Connecticut river....					299	435	734	580.07	.79	8.5	4.0	Sand and marl
Oak Grove ave....	Extensions northerly and southerly.						404	404	183.92	.45	4.6	3.0	Sand and gravel
[6] † Osgood st.....	Garden Brook sewer to North st.....	340	340					680	2,055.99	3.17	10.8	4.3	Clay and filling
[7] **Page blvd.....	St. James ave., northerly.....	3232						3232	9,894.55	3.06	14.0	4.5	Gravel, sand, and clay
[8] **Plainfield st....	Sanderson terrace, southerly, extension	151			208			359	883.79	2.46	11.6	4.3	Fine sand and clay
Ranney st.....	Johnson st., northerly.....					301	264	565	426.13	.75	6.0	3.3	Sand
Ranney st.....	Wilmont st., southerly.						85	85	96.04	1.13	6.9	3.5	Sand
[9] †Sharon st.....	Garden Brook sewer, easterly.....		301	300	231	232		1064	2,355.50	2.21	9.0	4.0	Sand and clay
[10] †Sharon st.....	Garden Brook sewer to Main st.....				180	151		331	883.30	2.67	10.0	4.0	Sand and clay
[11] St. James ave..	Chicopee road to Page boulevard....	127						127	396.52	3.12	14.4	4.5	Sand and gravel
Sylvan ave.....	Belmont ave. to Fountain place.....		294	251	249			794	1,136.42	1.43	11.2	4.0	Sand
Trafton road.....	Dickinson st., westerly.....			351	460	140		951	923.68	.97	6.2	3.5	Sand

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SEWER CONSTRUCTION—1912.—CONTINUED.

STREET.	LIMITS.	VITRIFIED CLAY PIPE. Size in Inches. 24″	20″	18″	15″	12″	10″	Total Length.	Total Cost of Sewer.	Total Cost per lineal ft.	Average Depth of Cutting.	Width of Trench.	Material Excavated.
Trillium st.....	White to Greenbrier st.....						345	345	$216.74	$0.63	8.5	3.5	Sand
Trinity terrace....	Sumner ave. to Morningside Park...					300	416	716	533.91	.75	8.2	3.5	Sand and clay
Virginia st.....	Dickinson st. to Trafton road.....				348	301	344	993	731.42	.74	8.0	3.5	Sand
Walnut court.....	Walnut st., westerly.....						211	211	188.15	.89	4.5	4.0	Sand and loam
West Alvord ave..	Sumner to Daviston ave.....	153	268	550	300	412		1,683	1,546.17	.91	8.1	3.8	Sand
White st.....	Longfellow terrace to Trillium st....			166		329		495	581.74	1.18	8.5	4.0	Sand
White st.....	Belmont ave. to Trillium st.....	233				191	210	634	1,008.39	1.59	11.0	3.7	Sand
Whiting st.....	Plainfield st., westerly.....			182				182	238.85	1.31	9.3	3.5	Sand and clay
Wight place.....	Water st., easterly, extension.....						175	175	240 47	1.37	6.5	3.5	Sandy loam
Total.....		5220	1503	3516	3226	4791	7723	25,979	$37,005.60				

*Completed.
**Incomplete.
†Relaid.

§Does not include cost of connections to buildings or street inlets.

[1] 79′ of 3″ underdrain.
[2] 182′ of 3″ underdrain.
[3] 88′ of 4″ underdrain.
[4] 240′ of 4″ underdrain.
[5] 854′ of 4″ underdrain.
[6] 310′ of 4″ underdrain.
370′ of 6″ underdrain.
[7] 3232′ of 6″ underdrain.
[8] 346′ of 4″ underdrain.
[9] 450′ of 6″ underdrain.
614′ of 4″ underdrain.
[10] 156′ of 4″ underdrain.
[11] 74′ of 6″ underdrain.
136′ of 8″ underdrain.

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*COST OF SEWER SYSTEM TO DECEMBER 1, 1912.

YEARS.	CONSTRUCTION.	MAINTENANCE.	TOTAL.
1863-1880 inclusive	$357,163 72	$38,178 38	$395,342 10
1881	43,902 05	2,359 29	46,261 34
1882	28,391 33	3,039 25	31,430 58
1883	26,573 85	4,039 33	30,613 18
1884	36,035 22	2,929 25	38,964 47
1885	29,199 74	2,477 23	31,676 97
1886	25,313 73	2,541 81	27,855 54
1887	33,967 31	2,376 47	36,343 78
1888	30,872 07	3,951 21	34,823 28
1889	24,123 28	6,056 46	30,179 74
1890	22,143 10	10,004 42	32,147 52
1891	86,586 55	6,412 75	92,999 30
1892	65,694 01	6,823 51	72,517 52
1893	27,881 38	8,553 66	36,435 04
1894	27,857 15	7,236 53	35,093 68
1895	23,905 82	7,598 31	31,504 13
1896	45,299 89	8,634 30	53,934 19
1897	33,976 14	8,790 00	42,766 14
1898	47,751 26	6,986 99	54,738 25
1899	51,246 07	8,594 56	59,840 63
1900	140,380 89	9,862 21	150,243 10
1901	80,276 02	13,272 25	93,548 27
1902	38,904 19	12,909 40	51,813 59
1903	29,169 75	9,034 88	38,204 63
1904	46,339 05	12,916 69	59,255 74
1905	40,831 47	9,620 62	50,452 09
1906	24,419 73	12,444 00	36,863 73
1907	47,977 73	10,797 97	58,775 70
1908	62,949 97	10,468 88	73,418 85
1909	39,013 60	11,002 42	50,016 02
1910	43,909 33	13,196 60	57,105 93
1911	34,186 56	12,836 07	47,022 63
1912	40,397 52	12,412 39	52,809 91
	$1,736,639 48	$298,358 09	$2,034,997 57

*Does not include cost of connections to buildings or street inlets.

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*PRECIPITATION FOR CALENDAR YEAR—1912.

Month.	Total in Inches.	Greatest Amt. in 24 Hours.	Dates.	Portion of Storms in which the Precipitation exceeded Half Inch per Hour.	Max. Rate per Hour.—Inches.	Duration of Max. Rate.—Minutes.
Jan.	.95	.22	29	April 2, .21 inch in 15 min.	.84	15
Feb.	2.80	1.55	21-22	" 7, .30 " " 24 "	.75	24
March	5.48	1.69	12-13	" 16, .51 " " 30 "	1.02	30
April	4.59	1.04	2	" 27, .15 " " 12 "	.75	12
May	4.40	1.28	16-17	May 12, .06 " " 10 "	.60	10
June	.39	.22	6	" 16, .19 " " 15 "	.76	15
July	1.89	.88	21	" 24, .18 " " 10 "	1.08	10
Aug.	3.76	1.43	18	" 24, .77 " " 23 "	2.00	23
Sept.	2.33	1.20	1-2	Sept. 6, .30 " " 10 "	1.80	10
Oct.	2.56	2.12	23-24	" 16, .20 " " 20 "	.60	20
Nov.	3.78	1.96	7-8	Oct. 23, .68 " " 80 "	.51	80
Dec.	3.51	1.00	27	" 24, .40 " " 25 "	.96	25
Total	36.44					

*Includes rain, melted hail, sleet and snow.

Number of days in which precipitation exceeded .01 inch,		98
Number of days during which snow and sleet fell,		25
Date of last snowfall in spring,	Apr. 9	
Date of first snowfall in fall,	Nov. 25	
Highest water in Connecticut river and date,	Apr. 9,	16.1′
Lowest water in Connecticut river and date,	July 8,	3.6′
Annual range of Connecticut river,		12.5′
Mean daily height of Connecticut river,		6.18′
Greatest 24-hour rise and date,	Oct. 24-25,	4.8′
Greatest 24-hour fall and date,	Apr. 10-11,	2.2′

Rainfall since 1891 amounting to 7 Inches or more per Month.		Rainfall since 1891 amounting to 4 Inches or more in 24 Hours.	
July, 1897,	14.68 inches.	July 13, 1897,	5.08 inches.
June, 1903,	8.33 "	Aug. 1-2, 1904,	4.04 "
Aug., 1904,	7.22 "	Sept. 14-15, 1904,	4.00 "
Sept., 1907,	8.27 "	Apr. 14-15, 1909,	4.03 "
Aug., 1908,	6.99 "	Oct. 18-19, 1911,	5.80 "
Oct., 1911,	8.66 "		

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PRECIPITATION—1892-1912.

YEAR.	TOTAL IN INCHES.	YEAR.	TOTAL IN INCHES.
1892	37.70	1902	46.74
1893	39.72	1903	43.91
1894	27.43	1904	39.12
1895	36.66	1905	32.88
1896	36.33	1906	42.37
1897	53.25	1907	44.11
1898	49.18	1908	36.08
1899	34.78	1909	34.98
1900	43.62	1910	32.18
1901	52.34	1911	41.84
		1912	36.44
		Total	841.61

40.08 yearly average for 21 years.

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GENERAL STATISTICS.

City of Springfield, Mass., December 1, 1912.

Springfield is situated on the east bank of the Connecticut river, in latitude 42° 06′ north, longitude 72° 35′ west, at an elevation above sea level of from 65 to over 215 feet.

Zero of "City Base" is 27.1 feet below sea level.

State street, at corner of Main street, is 65.9 feet above sea level, or 93 feet "City Base."

State street, at corner of Walnut street, is 199.1 feet above sea level.

Sumner ave. at corner of Belmont ave. is 187.9 feet above sea level.

Highest elevation in city (Markham Hill) 320 feet above sea level.

Greatest extent of city, north and south,		5.9 miles
Greatest extent of city, east and west,		8.9 miles
Connecticut river frontage,		4.65 miles
Area, including those portions covered by water, approximately,	24,661 acres	38.533 sq. miles

Area by wards: Ward One, 1,733.6 acres; Two, 225.7 acres; Three, 234.8 acres; Four, 413.2 acres; Five, 400.6 acres; Six, 327.4 acres; Seven, 2,197.7 acres; Eight, 19,128.3 acres. Area taxed, 16,185 acres.

Total park areas, 589.84 acres; Forest Park, 476.10 acres.

Population, estimated April 1, 1912,			94,100
Number of voters: men, 16,189; women, 353; total,			16,542
Number of polls, April 1, 1912,			26,648
School enrollment:	public, day, 16,584	19,461	21,861
	public, night, 2,877		
	parochial,	2,400	
Valuation, April 1, 1912,	Real estate,	$123,614,170	$151,971,730
	Personal,	28,357,560	

Tax rate, $15.50 per $1,000.

Public streets accepted to Dec. 1, 1912, 163.029 miles.

	Square yards.	Miles.
Wood block,	72,128	2.994
Granite block,	36,716	2.140
*Syracuse brick,	77,920	3.700
Other brick pavers,	8,353	.753
Sheet asphalt,	7,877	.444
Asphalt blocks,	712	.037
Bitulithic,	54,369	2.917
†Macadam, Water bound,	1,313,536	72.730
Macadam, Bituminous,	91,955	4.652
Gravel or dirt,		72.662
		163.029

*Does not include brick pavement in railway tracks around Court Square.

† Includes Pecousic avenue and Longmeadow street through Forest Park under the care of the Park Department.

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Sidewalks laid in public streets to Dec. 1, 1912, about 177.6 miles.

Electric railways, Dec. 1, 1912 (double track counted twice),

In public streets,	54.962 miles
On private property,	4.379 miles
	59.341 miles

Steam railroads,	Four tracks, about	4.5 miles
	Double tracks, about	7. miles
	Single track, about	13.2 miles
Water mains,		195.11 miles
Gas mains, July 1, 1912,		146.58 miles

Sewers, 129.213 miles,	Brick sewers,	26.024 miles
	Vitrified clay pipe,	76.595 miles
	Cement pipe,	22.26 miles
	Wood pipe,	.193 miles
	Cast iron,	.028 miles
	Concrete,	3.988 miles
	Brick-concrete,	.125 miles

Street lights, arc,	1,309	Post offices,	4
Street lights, incandescent,	388	Post office sub-stations,	19
Dwelling houses,	14,857	Police stations,	2
Schoolhouses,	37	Railroad stations,	6
Churches,	64	Engine houses,	13

Fire apparatus: motor driven,		Fire apparatus: horse drawn,	
Hose and chemical wagons,	9	Steam fire engines,	6
Aerial trucks,	3	" " " reserve,	2
Water towers,	1	Hose wagons,	5
Trolley transportation car,	1	Ladder trucks,	5
Commercial truck,	1	Aerial truck,	1
Auxiliary squad automobiles,	2		
Spare auxiliary automobile,	1		
Automobiles for Chief, Assistants, and Supt. Fire Alarm,	5		

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OVERSEERS OF THE POOR.

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BOARD OF

OVERSEERS OF THE POOR

FOR 1912.

HON. EDWARD H. LATHROP, *Chairman.*

WILLIAM R. THACKER,	*Term expires April 1, 1913.*
HENRY P. NORRIS,	*Term expires April 1, 1914.*
ARTHUR A. CALL,	*Term expires April 1, 1915.*
SYLVESTER E. RYAN, M.D.,	*Term expires April 1, 1915.*

EDWARD I. WHITE,	*Agent of the Board.*
JENNIE S. LOMBARD,	*Clerk of the Board.*
MARJORIE W. WARD,	*Stenographer.*
LYMAN W. SEXTON,	*Master of the Almshouse.*
SYLVESTER E. RYAN, M.D.,	*City Physician.*
CHARLES W. HEMENWAY,	*Keeper of Wayfarers' Lodge.*

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REPORT OF THE

BOARD OF OVERSEERS OF THE POOR

FOR THE

YEAR ENDING NOVEMBER 30, 1912.

To the City Council:—

The following is the report of the Overseers of the Poor for the year ending November 30, 1912.

It has previously been the custom to allow the department an amount which, with the estimated receipts, would meet the expenses of the year. Under the changed methods of conducting the finances of the city, the so-called uniform system of accounting, an appropriation was made at the beginning of the year for the total (estimated) expenditure.

The collections made on account of the department are credited to the estimated revenues of the city with the exception of collections for expenditures made for other departments, which by a system of transfer amounts to a credit to this department.

This appropriation, designated as Charities, was as follows:—

General administration,	$5,900 00
Almshouse,	29,500 00
Wayfarers' Lodge,	2,800 00
Outside Relief,	14,800 00

The total appropriation ($53,000) with transfers ($2,830.19) made $55,830.19 available for the expenses of the department.

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The total expenditure for the year was $54,195.42, leaving a balance unexpended of $1,634.17.

The total collections were $19,155.71 as against $13,963.82 for the previous year. The decrease in the inventory of the property at the Almshouse and Wayfarers' Lodge amounted to $1,285.77, adding this to the total expenditures ($54,195.42) we have $55,481.19. Deducting from the latter the collections ($19,155.71) we have $36,325.48, the net expense of caring for the poor.

ALMSHOUSE.

The total number of inmates was 470, an increase of 23. The average number was 126, an increase of 16 over the year 1911.

The total expenditure at the Almshouse was $31,191.62. The average weekly cost was $4.29 as against $4.95 in 1911. This was due in part to an increased number of inmates, and also to the fact that many of them remained for a longer period than usual, giving a greater number of weeks' support, while the overhead charges did not differ materially from the previous year. There has been no particular change in the class of inmates supported, except that since the remodeling and enlarging of the Isolation Hospital we have not been obliged to provide for tubercular patients.

The employees of the Isolation Hospital are lodged in the upper story of the Almshouse Hospital. The latter is of mill construction and the noise resulting from the occupancy of the upper floor is necessarily disturbing to the patients below. We recommend that other quarters be provided for these employees.

The number of patients in the Almshouse Hospital increases steadily, and on several occasions its capacity has been taxed to the limit. One evil exists in connection with support at the Almshouse, for which there seems to be no remedy. Aged people are sent there by their relatives, who are morally

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and often legally bound to support them, but the burden is thrown upon the public, while the relatives secure insurance on the life of the inmate and after his death the proceeds from the insurance yield a good profit on the investment. Several instances of this nature have occurred within the past year. Family pride, if nothing else, should put an end to this custom.

A covered passageway from the main building to the hospital has been constructed, affording protection in cold and stormy weather. Outside of this improvement there have been ordinary repairs only. We have furnished light, heat, and ice for the Isolation Hospital, the expenses of the same being charged to the Board of Health. The heating plant is old and expensive to maintain. We would recommend a central heating plant of modern design in the near future, as the present one has been in use many years and is likely to give out at any time.

The City Physician has made 310 visits to the institution during the past year.

The products of the farm in 1911 were valued at $3,380.10. Those for the past year amounted to $4,040.61. They were as follows:—

40 bushels peas at $1.50	$60 00
20 bushels string beans at $1	20 00
40 bushels shell beans	60 00
20 bushels lima beans	30 00
40 bushels beets	40 00
1,000 ears corn	75 00
15 bushels cucumbers	15 00
50 bushels tomatoes	50 00
490 bushels potatoes	294 00
60 bushels turnips	15 00
3,000 cabbages	120 00
Ensilage	150 00
20 tons hay at $24	480 00

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44,690 quarts milk at 5 cents	$2,234 50
Pork sold	324 61
Beef sold	72 50
	$4,040 61

OUTDOOR RELIEF.

A comparative statement of the expenditures for the past two years is as follows:—

	1911.	1912.
Disbursed direct to poor by agent	$9,626 18	$10,284 34
Paid to hospitals in Springfield	2,043 66	2,187 35
Paid to other cities and towns for Springfield poor	1,548 74	1,045 62
Paid to state hospitals	244 80	320 64
	$13,463 38	$13,737 95

There was an increased expenditure for fuel, owing to the severity of the winter of 1911-12. There has been somewhat less call for aid during the past fall, owing to favorable conditions for outdoor employment, and very little complaint has been made of inability to secure work. In consequence of these favorable conditions, very few local applicants have asked for work at the Wayfarers' Lodge.

LOCAL HOSPITALS.

Expenditures for 1911 and 1912 were as follows:—

	1911.	1912.
Mercy Hospital	$1,584 41	$1,245 85
Springfield Hospital	435 25	941 50
Wesson Memorial Hospital	24 00	
	$2,043 66	$2,187 35

We would say in connection with hospital expense that the Workingmen's Compensation Act, so-called (Chap. 751, Acts of 1911), which took effect July 1, 1912, will, in some cases,

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provide for persons injured, who have heretofore been an expense to this department. This Act provides for payment of care in a hospital for two weeks following the injury, and also for a weekly payment to the injured, the amount depending upon his wages. We have already been relieved of expense in several instances since the law took effect.

WAYFARERS' LODGE.

The number of tramps lodged was 1,180, an increase of 122 over the previous year. The management of the Lodge continues the same as in previous years. The woodshed and equipment need repairs if the Lodge is to remain in the present location. The following shows the receipts and expenditures for the past year:—

RECEIPTS.

Wood and supplies on hand November 1, 1911.	$352 28	
Cash sales	2,032 00	
Accounts receivable	281 00	
	$2,665 28	
Profit and loss	1,388 18	
		$4,053 46

EXPENDITURES.

Salary of keeper, wood, supplies, etc	$3,572 21	
Wood delivered to the poor	234 50	
Wood and supplies on hand November 1, 1912.	246 75	
		$4,053 46

Respectfully submitted,

ARTHUR A. CALL,
HENRY R. NORRIS,
WM. R. THACKER,
SYLVESTER E. RYAN, M.D.

Overseers of the Poor.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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STATISTICS.

RECEIPTS AND TRANSFERS.

	Receipts.	Transfers.	
From appropriation			$53,000 00
Various cities and towns:			
Almshouse care $2,374 20			
Outside relief 2,124 76			
	$4,498 96		
The Commonwealth, for temporary aid, care of sick and transportation:			
Almshouse care $657 59			
Outside relief 5,790 14			
	6,447 73		
Isolation Hospital, for lighting, heating, ambulance service, and ice		$2,353 00	
Isolation Hospital for care of persons sick with contagious diseases		332 00	
Soldiers' Relief, for care of the sick at hospitals		145 19	
			2,830 19
Individuals for care at hospitals and aid reimbursed:			
Almshouse care $2,824 69			
Outside relief 70 11			
	2,894 80		
Products of City Farm	452 03		
Sale of Wood	2,032 00		
	* $16,325 52		$55,830 19

* Amount of receipts was turned in to the Estimated Revenues of the City.

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EXPENDITURES.

For the support of persons at the Almshouse	$31,191 62
Outdoor relief, not including hospital expenses	11,329 96
The support of patients at the Springfield and Mercy Hospitals	2,187 35
The State Infirmary	11 50
The State Hospital School, Canton	209 14
Salaries	5,142 50
Miscellaneous expenses	551 14
Wayfarers' Lodge	3,572 21
	$54,195 42
Balance unexpended	1,634 77
	$55,830 19

ALMSHOUSE.

Number of persons in Almshouse November 1, 1911	115
Number admitted during the year	355
Total number of inmates	470
Number discharged	343
Number remaining October 31, 1912	127
Average number of inmates	126

OUTDOOR RELIEF.

The total number aided was:—

Having a settlement in the city	913
Having a settlement elsewhere	309
Having no settlement	502
	1,724

The number of persons aided the first time was:—

Having a settlement in the city	248
Having a settlement elsewhere	128
Having no settlement	223
	599

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EXPENSES OF OUTDOOR RELIEF.

(Including hospital aid.)

Persons having a settlement in the city	$7,645 74
Persons having a settlement elsewhere	2,212 40
Persons having no settlement	3,879 81
	$13,737 95

The total number of persons aided during the year was 2,194.

Sixty-four persons have been sent to the State Infirmary at Tewksbury.

Ninety-five persons have been aided who were non-residents, but had a settlement here.

One hundred notices were received from various cities and towns and the State, of aid rendered to persons whose settlement was claimed in this city.

INVENTORY.

Almshouse furniture, fixtures and farm tools	$7,869 95
Almshouse provisions and supplies	7,665 88
Horses, cows and other live stock	2,863 00
Office furniture and fixtures	925 70
Wayfarers' Lodge, wood	204 75
Wayfarers' Lodge, fixtures	903 25
Wayfarers' Lodge, supplies	42 00
	$20,474 53

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DETAILED STATEMENT OF EXPENDITURES IN 1911-1912.

Outdoor Relief.

	Cash.	Transportation.	Fuel.	Provisions.	Clothing.	Medicine and Medical Supplies.	Paid Cities and Towns.	Burials.	Hospital School, Canton.	State Infirmary.	Springfield Hospital.	Mercy Hospital.	Totals.
November,	$63 28	$8 39	$240 35	$450 00	$24 52	$3 60	$2 00	$10 00	.....	.....	.....	.....	$802 14
December,	52 50	51 53	204 73	483 75	36 84	20 75	19 79	70 50	$52 00	.....	.....	.....	992 39
January,	43 00	93 63	421 41	603 07	127 34	25 49	413 32	23 00	.....	.....	.....	.....	1,750 26
February,	56 90	35 56	249 82	636 25	40 99	12 60	47 14	75 00	.....	$8 50	.....	.....	1,162 16
March,	54 95	19 64	270 13	590 75	74 32	44 45	.....	.....	52 00	.....	.....	.....	1,106 24
April,	62 25	10 56	19 98	502 95	35 10	46 75	34 86	43 00	.....	.....	.....	$670 85	1,426 30
May,	76 75	56 03	.....	552 95	24 30	25 45	96 57	31 00	52 57	.....	$357 50	.....	1,273 12
June,	124 50	13 02	.....	507 05	12 95	119 70	30 00	88 00	.....	.....	.....	.....	895 22
July,	26 35	.....	.....	517 35	5 97	43 20	144 90	50 00	.....	3 00	.....	.....	790 77
August,	55 40	16 74	.....	526 32	6 94	3 45	39 86	45 00	.....	.....	.....	.....	693 71
September,	60 50	43 26	3 00	457 10	1 80	52 15	127 27	60 00	52 57	.....	415 00	.....	1,272 65
October,	44 00	17 61	3 50	550 87	71 40	26 70	89 91	15 00	.....	.....	169 00	575 00	1,572 99
	$720 38	$365 97	$1,412 92	$6,378 41	$462 47	$433 69	$1,045 62	$510 50	$209 14	$11 50	$941 50	$1,245 85	$13,737 95

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DETAILED STATEMENT OF EXPENDITURES IN 1911–1912.—CONTINUED.

ALMSHOUSE.

	Maintenance.	Salaries.	Furniture and Repairs.	Totals.
November,	$640 68	$788 80	$98 00	$1,527 48
December,	1,714 41	794 42	352 28	2,861 11
January,	1,083 70	826 28	135 96	2,045 94
February,	774 16	900 20	36 32	1,710 68
March,	1,205 23	825 93	56 11	2,087 27
April,	1,360 80	803 76	261 01	2,425 57
May,	1,489 29	829 15	52 68	2,371 12
June,	849 05	833 72	152 23	1,835 00
July,	1,344 56	880 59	144 71	2,369 86
August,	4,016 37	905 90	49 40	4,971 67
September,	1,146 06	986 30	274 43	2,406 79
October,	3,098 44	831 25	649 44	4,579 13
	$18,722 75	$10,206 30	$2,262 57	$31,191 62

MISCELLANEOUS

	Salaries.	Miscellaneous.	Wayfarers' Lodge.	Totals.
November,	$427 09	$26 80	$407 66	$861 55
December,	427 09	31 79	441 32	900 20
January,	430 59	39 88	714 26	1,184 73
February,	427 09	72 94	259 99	760 02
March,	428 83	43 50	239 27	711 60
April,	428 82	63 13	195 23	687 18
May,	428 82	52 58	254 33	735 73
June,	428 82	22 35	193 47	644 64
July,	428 82	34 54	148 01	611 37
August,	428 82	79 20		508 02
September,	428 82	56 88	216 56	702 26
October,	428 89	27 55	502 11	958 55
	$5,142 50	$551 14	$3,572 21	$9,265 85

TOTALS.

	Outdoor Relief.	Almshouse.	Miscellaneous.	Grand Totals.
November,	$802 14	$1,527 48	$861 55	$3,191 17
December,	992 39	2,861 11	900 20	4,753 70
January,	1,750 26	2,045 94	1,184 73	4,980 93
February,	1,162 16	1,710 68	760 02	3,632 86
March,	1,106 24	2,087 27	711 60	3,905 11
April,	1,426 30	2,425 57	687 18	4,539 05
May,	1,273 12	2,371 12	735 73	4,379 97
June,	895 22	1,835 00	644 64	3,374 86
July,	790 77	2,369 86	611 37	3,772 00
August,	693 71	4,971 67	508 02	6,173 40
September,	1,272 65	2,406 79	702 26	4,381 70
October,	1,572 99	4,579 13	958 55	7,110 67
	$13,737 95	$31,191 62	$9,265 85	$54,195 42

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REPORT OF

Committee on State and Military Aid and Soldiers' Relief.

SPRINGFIELD, MASS., December 9, 1912.

To the City Council of the City of Springfield:—

The Committee on State and Military Aid, to whom is assigned also the disbursement of Soldiers' Relief under the provisions of Chapter 79, Revised Laws of Massachusetts, respectfully report to your honorable body the work of said Committee for the fiscal year 1912, in comparison with the work of the same Committee for the two fiscal years preceding, as follows:

	1912.	1911.	1910.
State Aid, Civil War,	$13,037 00	$13,082 00	$14,025 00
State Aid, war with Spain,	146 00	132 00	136 00
Military Aid, war with Spain,	106 00	70 00	150 00
Soldiers' Relief actually disbursed,	4,035 64	3,802 59	3,905 80
Charged to other municipalities,	122 10	161 87	81 38
Repaid by recipients,	24 00	42 00	58 00
Salary and incidental expenses,	625 03	618 34	617 55

Recipients of State and Military Aid on rolls at close of year:—

Veteran soldiers,	93	98	101
Widows,	132	136	134
Soldiers' wives,	3	6	5
Widowed mothers,	2	2	2
	230	242	242

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Recipients of Soldiers' Relief for year:—

Families,	34	37	40
Single persons,	66	59	46
	100	96	86

It will be observed that a slight decrease is shown in the amount of State and Military Aid paid, and in the number of names upon the rolls at the close of the year. This is somewhat offset by the slight increase in both respects in the Soldiers' Relief. I cannot better close this brief report than by quoting the closing sentences of the report made one year ago: "The number of families assisted grows steadily less, the increase being in the number of single persons,—due to the fact that most of the 'families' consist of aged couples, one of whom dying dissolves the 'family.' Practically all of these recipients are persons of advanced age—veterans of the civil war, their wives or widows; and while the death rate is correspondingly heavy, the numbers are kept good by the contingent who, heretofore self-supporting, find themselves by reason of illness, the infirmities of age, or loss of earning power, in need of assistance. To this deserving class our city has ever extended the willing hand in such measure as has been required to meet the needs of the defenders of our nation and their dependents. This spirit and purpose your Committee has striven conscientiously to continue and carry out as circumstances might require."

Respectfully submitted for the Committee,

JAMES L. BOWEN,

Secretary.

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BOARD OF ALDERMEN, December 9, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 9, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 10, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 10, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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REPORT OF THE

BURIAL AGENT.

SPRINGFIELD, MASS., December 9, 1912.

To the City Council of the City of Springfield.

GENTLEMEN:—Under the provisions of Chapter 468, Section 17, Acts of 1909, "the Mayor of each city . . .shall designate a burial agent, who shall not be one of the overseers of the poor or be employed by them, and who shall, under regulations established by the Commissioner of State Aid, cause properly to be interred the body of any honorably discharged soldier, sailor or marine who served in the army or navy of the United States during the war of the rebellion, or during the war between the United States and Spain, ... and the body of his wife, widow, or dependent mother, and the bodies of such army nurses as are entitled to state aid under section 3 of this act, if they die without sufficient means to defray funeral expenses," etc. The expense of such burial (sec. 18) shall not exceed thirty-seven dollars ($37), two dollars ($2) of which shall be paid to the burial agent as his compensation for services rendered. The sum, when properly approved, is paid by the city treasurer to the undertaker and burial agent, and is repaid by the state.

It has been the custom of our mayors for some years past to appoint a burial agent each for civil war and Spanish war veterans, and the tabulated report of service rendered for the present fiscal year, in comparison with the two years preceding, may be thus summarized:—

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	1912.	1911.	1910.
Soldiers buried,	12*	13	13
Soldiers' wives,		2	5
Soldiers' widows,	7	7	4

*Civil war, 9; war with Spain, 3.

FINANCIAL STATEMENT.

Appropriated for fiscal year,	$660 00	
Transferred from State Aid fund,	43 00	
		$703 00
Payments: 19 burials at $37,		$703 00

Respectfully submitted,

JAMES L. BOWEN,

Burial Agent.

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BOARD OF ALDERMEN, December 9, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 9, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 10, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 10, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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REPORT OF THE

Sealer of Weights and Measures and Inspector of Coal.

SPRINGFIELD, MASS., December 9, 1912.

To the City Council of the City of Springfield.

GENTLEMEN:—The work of this department has been carried on during the past year, as heretofore, in accordance with the laws of the Commonwealth and the regulations prescribed and recommended by the State Department of Weights and Measures, with the double purpose of protecting and educating the public. Not a little time and much labor has been given to the task of securing compliance with the new law requiring that all fruits and vegetables for which a legal weight has been established shall be sold only by weight or numerical count. Itinerant dealers, especially, have been the source of much trouble, but gradually they are coming to comprehend the value of the law, and yield a careful obedience thereto. While this cause has consumed much time which might advantageously have been devoted to the other branches of work pertaining to the department, it has been the purpose of the sealer and his deputy to so distribute their labor that no branch should suffer neglect.

The financial showing for the year may be briefly summarized:—

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Annual appropriation,		$2,150 00
Salary paid James L. Bowen, Sealer,	$525 00	
Salary paid James L. Bowen, Inspector of Coal,	100 00	
Salary paid Adelbert R. Geer, Deputy Sealer,	1,000 00	
Paid Adelbert R. Geer for transportation,	250 00	
Water Department, rent of quarters,	90 00	
N. E. Telephone and Telegraph Co.,	36 30	
Springfield Printing and Binding Co., printing,	45 00	
Hobbs & Warren Co., record book,	3 50	
Oliver & Howland Co., fixtures,	8 49	
George M. Fiske, rubber stamps,	1 00	
Springfield Office Supply Co., record cards,	1 80	
Carl Newell, tool box,	6 50	
W. & L. E. Gurley, appartus and supplies,	11 40	
The Republican Co., advertising,	3 05	
Springfield Daily News, advertising,	2 90	
Springfield Homestead, advertising,	2 13	
Springfield Union Co., advertising,	4 50	
E. S. Stacy Machine Co., repairs,	75	
H. Rude Co., supplies,	1 25	
Springfield Directory,	4 00	
Sackett Typewriter Exchange, pencil sharpener,	3 00	
Cash for office sundries,	6 95	
Expenditures for the year,		2,107 52
Balance,		$42 48
Sealing fees collected and paid City Treasurer,		$635 18

The routine work of the department is thus shown in the annual report made to the Commissioner of Weights and and Measures at Boston:—

	Sealed.	Condemned.
Platform scales, over 5,000 pounds,	62	9
Platform scales, under 5,000 pounds,	388	64
Computing scales,	306	86
Slot weighing machines,	61	3
All other scales,	1,655	228
Weights,	1,253	27

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	Sealed.	Condemned.
Dry measures,	303	2
Liquid measures (other than milk jars),	1,458	71
Milk jars,	83	10
Linear measures,	486	85
Oil and molasses pumps,	13	

In co-operation with the state authorities, several prosecutions for violations of the laws relating to weights and measures have been made, conviction and fine being secured in all cases.

In view of the steadily increasing requirements made of the department, it would seem a matter of true economy, as well as an aid to increased efficiency, to provide the department with adequate transportation, the property of the city, and cared for at the expense of the city, as in the case of other departments. At the proper time and in the proper manner, I shall be pleased to present the reasons for this recommendation, bespeaking its kindly consideration.

INSPECTOR OF COAL.

The work of the Inspector of Coal consists principally of (1) the testing of loads of coal in transit, (2) the hearing and investigation of complaints of all kinds, and (3) oversight of the licensing of dealers in coal and coke, as provided by the state laws. The work under the first head may be thus tabulated:—

Number of loads reweighed,	23
Pounds of coal reweighed,	102,685
Number of loads showing exact weight,	7
Number of loads showing short weight,	5
Number of loads showing overweight,	11
Total pounds shortage shown,	190
Total pounds overweight shown,	795
Net overweight of all loads weighed, pounds,	605
Licensed coal dealers in the city, large and small,	298

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In closing, I desire to express my appreciation of the kind courtesy received from all state and municipal officers with whom I have come in contact in the discharge of my varied duties, and my thanks to Deputy Sealer Adelbert R. Geer for the faithful and loyal discharge of all duties assigned to him, no matter how unpleasant some of them may have been. It is gratifying to know, also, that all branches of the public are coming to appreciate the value of the work which this department, in common with like departments throughout the country, is endeavoring faithfully to carry on. Justice as between man and man, with fair dealing, just weights and measurements, with the cultivation of a careful and discriminating intelligence,—these are the principles for which we labor, for the protection of all the people.

Very respectfully,

JAMES L. BOWEN,

Sealer of Weights and Measures and Inspector of Coal.

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BOARD OF ALDERMEN, December 9, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk*

COMMON COUNCIL, December 9, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 10, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 10, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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REPORT OF THE

CITY PHYSICIAN.

SPRINGFIELD, MASS., January 20, 1913.

To His Honor, the Mayor, and Gentlemen of the City Council.

GENTLEMEN:—I respectfully submit the following report for the remainder of my term as City Physician:—

Number of visits made for Overseers of the Poor,	110
Number of visits made to Almshouse,	60
Number of visits made to Police Station,	47
Number of visits made for Soldiers' Relief,	10
Number of Patrolmen examined,	5
Number of Firemen examined,	5

In the hospital at the Almshouse January 1, 1912, there were forty-eight (48) patients. Ninety-two (92) patients were admitted and ninety-two (92) discharged to April 1, 1912, leaving forty-eight (48) in the hospital.

During this period there were nine deaths at the Almshouse, five (5) males and four (4) females, from the following causes:—

Male.		Female.
	Arthritis Deformans	63
58, 74	Cerebral Hemorrhage	60
	Endocarditis, Acute	32
53	Endocarditis, Chronic	68
82	General Arterio-sclerosis	
71	Nephritis, Acute	
Total, 5.		Total, 4.

Yours respectfully,

JOSEPH N. BOYER, M.D.

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BOARD OF ALDERMEN, January 27, 1913.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, January 27, 1913.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, January 28, 1913.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., January 29, 1913.

Approved.

JOHN A. DENISON, *Mayor.*

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BOARD OF HEALTH.

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ORGANIZATION OF HEALTH DEPARTMENT.

BOARD OF HEALTH.

THOMAS F. REARDEN, M.D., *Chairman,*
EDGAR H. GUILD, M.D. PHILIP V. ERARD.

EDGAR H. GUILD, M.D.,
Health Physician and Bacteriologist.

WILLIAM L. YOUNG, *Agent and Clerk.*
GRACE E. WARREN, *Clerk for Agent.*

SANITARY INSPECTORS.

JACOB R. SACKETT,
FRANK A. MURRAY,
HENRY WRIGHT, JR.

INSPECTORS OF MILK.

STEPHEN C. DOWNS.
JAMES A. GAMBLE.

INSPECTOR OF VINEGAR.

STEPHEN C. DOWNS.

INSPECTOR OF ANIMALS, MEATS, AND PROVISIONS.

HARRY LUKES, D.V.S.

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HEALTH DEPARTMENT HOSPITAL.

State Street.

EDGAR H. GUILD, M.D., *Physician in Charge.*

CONTAGIOUS DISEASES.

Visiting Physicians.

ORLAND R. BLAIR, M.D.
WILLIAM J. LEONARD, M.D.
HENRY RITTER, M.D.
CHARLES E. STREET, M.D.

TUBERCULOSIS.

Visiting Physicians.

EVERETT A. BATES, M.D.
THOMAS F. REARDEN, M.D.
HENRY H. WILCOX, M.D.

Aurist and Laryngologist.

HARRY F. BYRNES, M.D.

MINNIE I. BACON, *Matron.*

MEDICAL INSPECTORS OF SCHOOLS.

RICHARD S. BENNER, M.D.
WALTER H. CHAPIN, M.D.
MICHAEL W. HARRINGTON, M.D.
JAMES P. HILLARD, M.D.
WALTER A. HOSLEY, M.D.
GEORGE T. LAMARCHE, M.D.
LAURENCE J. MCCARTHY, M.D.
RALPH B. OBER, M.D.
THOMAS F. REARDEN, M.D.
ALLEN G. RICE, M.D.
HENRY RITTER, M.D.
ERDIX T. SMITH, M.D.
CHARLES E. STREET, M.D.

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THIRTY-FIRST ANNUAL REPORT

OF THE

BOARD OF HEALTH.

To His Honor, the Mayor, and Members of the City Council.

GENTLEMEN: The Board of Health hereby submits its report of the different divisions of the Health Department for the year ending December 31, 1912, for your consideration and approval.

The interest which the public at large has taken in matters connected with the general health and welfare of the community is one of the most encouraging features of health department work. It acts as a great incentive to Boards of Health who desire to keep abreast with the newer ideas which are being brought to bear on the operation of the Health Department. There are many advances being made in the enlargement of public health work and it is most desirable that public thought and opinion are at least in a receptive mood for what is often looked upon as unnecessary or even as an infringement on the rights and privileges of the individual. The same responsibility which the individual places upon the city for affording police and fire protection, streets and sidewalks which are clean and safe, adequate educational facilities, pure water and many other features, is now being extended to include those matters which affect the health of the community, and this demand is reaching out beyond the protection from contagious diseases. It becomes then the duty of health departments to embody in their administrative

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work these newer ideas, and to develop them as rapidly as their need becomes apparent

In this future development of health work there are certain things which must be borne in mind, the observance of which is essential for the successful outcome of a systematic extension of the work which deals more especially with the prevention of disease through knowledge of the laws of hygiene, sanitation, and right living. It may be stated in consideration of this matter that there is no mysterious power conferred upon a board of health, or in any rules and regulations which may be formulated, which will, in itself, bring about results hoped for by enthusiastic advocates of the social, hygienic, and economic uplift. The prevention of disease and the establishment of increased resistance to infection are great educational problems, in which the Health Department should act as a leader and director, but in the final outcome an equal or even greater responsibility rests upon the individual. Carelessness, ignorance, or willfulness on the part of the individual are features beyond the control of health regulations or police supervision.

The anti-spitting Statute may be used as an illustration. Its observance is entirely within the power of the individual. With the yearly increasing expenditure of many thousands of dollars in the work of caring for and controlling tuberculosis, a few careless individuals by disobeying this Statute can easily nullify all the work which is accomplished by the most extended campaign against the spread of tuberculosis.

The city has installed the most modern system obtainable for the disposal of garbage and rubbish and has adopted regulations for the guidance of the public. The individual must comply with these rules or the work will not be efficient. It is evidently outside the duty of the collectors to clean up entire yards which have been made the dumping ground for

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all sorts of rubbish, and the responsibility of the individual becomes apparent in this direction. This personal responsibility in health matters shows itself in many ways. A person is isolated for a contagious disease and the house is placarded, notifying the public of this fact. It is often the case that this isolation is regarded as an injustice and no thought is given to the object of the isolation, or to the personal responsibility and duty which is due the community in obeying the restrictions imposed. Contagious diseases are spread chiefly by contact with those who are sick, and isolation becomes valuable chiefly through the co-operation of the individual. The individual must be made to see and feel that he also has a duty to perform in improving the health of the community, and that it will in the aggregate make a great difference whether each one does his share or not. If we are to have a clean and healthy city it must come through the co-operation and help of the public at large. The careless must become careful, the willful must be restrained, and the ignorant be taught and educated to appreciate the value of sanitary methods of living. The strong awakening of public interest in health matters gives a new impetus to the development of the educational side of health work, and the field is unlimited for advance in this direction. It is well said that good health is a purchasable commodity, and that sickness can be prevented if the public is willing to pay enough for the necessary safeguards. It is submitted in this connection that the preservation of human life and prevention of disease should not occupy a secondary place to that of any other work which looks to the city for its financial support, and that the amounts expended are small when compared with other public expenditures. There were 1,445 deaths in the city during the past year. Some of these were unnecessary and should not have occurred. While self-preservation is the first law of nature, any increase in the duration of life must be based upon a

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constant improvement of all the conditions which surround the individual, not only those which are under his own control, but also those which can only be brought about by the constant enlargement of health department activities in the broader field.

TRANSACTIONS OF THE BOARD AND GENERAL WORK OF THE DEPARTMENT.

The complete organization of the department appears at the beginning of this report. Regular meetings of the Board are held on the first and third Thursdays of each month for the transaction of routine business, and special meetings are held when necessary. The provisional appointment of Henry Wright, Jr., as sanitary inspector was made permanent. Dr. Harry Lukes was appointed inspector of slaughtering. Dr. Thomas F. Rearden was appointed as representative of the Board of Health on the Philanthropic Council. The revised plumbing ordinances as recommended by the Building Commissioner were approved. The regulation governing the removal of night soil was revised and the fees for the work doubled in amount. The following regulation concerning the use of polluted water was adopted in consequence of the danger arising from the use of such water for drinking purposes.

Regulation Pertaining to the Use of Polluted Water.

There shall be displayed in a conspicuous place at, or near, all faucets or other original outlets from which polluted water is drawn, a sign marked:

WARNING!
POLLUTED WATER.

in letters not less than one inch in height and in all languages necessary to be readily understood by every employee who may have access to such faucets or outlets.

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All pipes exposed to view, faucets, outlets, hose, pails, or other fixtures or utensils from which polluted water is drawn or used, shall be painted and maintained a brilliant red.

The term "polluted water" as used in this Regulation, shall be considered to mean the waters of the Connecticut River, Chicopee River, and Mill River, and any other water which may from time to time be declared impure by the Board of Health.

Through the advice of the Board the rabbis of the Jewish synagogues have established central quarters fitted up in a sanitary manner where the killing and plucking of all poultry used by their parishioners is done in a proper manner. The practice of killing poultry in many different places had become very objectionable and the present arrangment is considered most satisfactory.

The routine inspection work and disinfection of rooms and apartments is increasing yearly and further enlargement of the inspection work is necessary in order that the department may be at all times definitely informed as to the sanitary conditions of the city. One thousand, one hundred and eighty-eight rooms in 498 different houses have been disinfected during the year. Disinfection is now made for Diphtheria, Scarlet Fever, Tuberculosis, Cerebro-spinal Meningitis, Poliomyelitis, and Typhoid Fever. The real value of disinfection in preventing the spread of disease is being questioned by good authorities, but other substitutes are then employed to such an extent that it has not seemed advisable as yet to lessen the work in this direction. The clerical work with the necessary indexing, tabulation, and general office work is increasing so that it will soon be necessary to have another office assistant and an additional inspector will also be needed.

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SUMMARY OF THE GENERAL WORK OF THE DEPARTMENT.

Complaints Investigated and Cause Removed.

Alleys, filthy,	27
Animals, dead in yard,	10
Animals, dead in street,	7
Animals, kept in house,	9
Ashes and rubbish in yard,	61
Barber shops, insanitary,	3
Buildings, foul odor in,	20
Cellars, water in,	25
Cellars, filthy,	27
Cesspools, overflowing,	6
Cesspool, cleaning unlawfully,	1
Cigar factory in cellar,	1
Committing nuisance,	18
Complaints investigated, no cause found,	89
Contagious diseases, suspected cases,	13
Contagious diseases, failure to observe rules relative to,	35
Dumping grounds, papers and rubbish blown from,	17
Dumping grounds, foul odor from,	9
Dumping rubbish unlawfully,	5
Factories, no cuspidor and medical chest,	32
Fish and meat markets, foul odor from,	2
Fowls kept in attic,	4
Fowls kept in cellar,	17
Garbage in cellar,	4
Garbage thrown on ground,	41
Garbage thrown on roof,	5
Garbage, insanitary receptacle,	44
Garbage, in house,	4
Gas house refuse draining into river,	6
Gas, illuminating, odor in house,	4
Halls and stairways, filthy,	11
Lodging house, beds dirty,	9
Manure heaps, foul odor from,	22
Milk, adulteration of,	20
Milk, illegal bottling of,	33
Milk, contaminated,	14
Milk, unclassified,	217

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Plumbing, insanitary,	31
Poultry yards as a nuisance,	37
Privy vaults, foul odors,	16
Rendering plants, foul odor from,	6
Sewer drains, stoppage of,	6
Sewer drainage in cellar,	9
Sewage draining into brook,	6
Sewer openings, foul odor from,	6
Slaughtering without a license,	5
Slops thrown on ground,	11
Stables, no receptacle for manure,	6
Stables, filthy,	7
Stables, foul odors from,	37
Stables, occupied without a license,	8
Standing water, foul odor from,	18
Stores, refuse not removed,	16
Street sweepings in yard,	12
Streets, dirty,	3
Surface, sink drains,	6
Swine, filthy pens,	2
Swine, keeping without a license,	1
Theater, dressing room filthy,	2
Tenements, filthy,	15
Tenements, insanitary,	4
Tenements, overcrowded,	8
Tenements, poor ventilation,	14
Unclassified,	72
Water closets, filthy,	30
Water closets, foul odors from,	14
Water closets, frozen,	8
Water closets, insufficient number,	13
Water closets without water,	32
Yards, filthy,	61

SANITARY INSPECTIONS.

Alleyways,	254
Bakeries,	428
Barber shops,	187
Cellars,	136
Houses,	580
Stables,	297

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Vaults,	83
Yards,	10,407

MISCELLANEOUS.

Applications for stable license,	98
Stable licenses granted,	68
Given leave to withdraw,	28
Pending,	2
Written notices to remove nuisances,	312
Notices served,	51
Prosecutions,	4
Convictions,	4
Vaults and cesspools abolished, sewer connection ordered,	5
Nuisances abated by Board of Health, expense charged to owners,	4
Houses fumigated,	498
Rooms fumigated,	1,188

VITAL STATISTICS.

The total number of deaths occurring in this city during the year 1912 was 1,445, exclusive of still births, which numbered 95. This number includes 203 non-resident deaths which should not be included in the actual death rate, as these cases died in the different hospitals and institutions where they were sent from other towns for treatment. The population of the city is estimated at 96,973, which establishes the actual death rate of residents at 12.8 per 1,000 inhabitants. Including non-resident deaths the death rate would be 14.9 per 1,000 inhabitants. The death rate for the year 1912 has not been lower in twenty-two years, and as far as can be ascertained Springfield has as low a death rate as any city in the United States. The registration of births, sickness, and deaths is yearly being placed on a more satisfactory basis. This improvement is essential, as it furnishes the necessary information upon which future development of health work should be carried out. It is a mistaken idea that the knowl-

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edge thus obtained of personal disease becomes a matter of publicity, or that it reflects upon the reputation of the physician whose name appears upon a death certificate or other reports which he may be required to make. If the epidemic occurrence of disease is to be prevented, the primary and early information must be furnished by the family physician, and the promptness with which the physicians of Springfield send in these reports is highly commendable. It serves as an indication of the spirit of co-operation which exists between the medical profession and the efforts of the Board of Health. Two new tables are introduced—one showing percentage of deaths per 1,000 population for various diseases, and the other showing the percentages of deaths per 1,000 population for the different age periods for all diseases.

DEATH RATE PER 1,000 POPULATION FROM 1891.

Year.	Population.	Death Rate.	Year.	Population.	Death Rate.
1891	45,615	19.25	1902	66,854	15.53
1892	46,924	21.07	1903	69,389	15.85
1893	48,233	19.86	1904	72,020	15.95
1894	49,824	15.69	1905	73,540	15.03
1895	51,522	17.87	1906	76,255	14.90
1896	53,131	17.70	1907	78,707	16.54
1897	54,790	17.06	1908	81,425	15.03
1898	56,501	17.54	1909	84,237	15.53
1899	58,266	16.09	1910	88,926	16.65
1900	62,059	18.02	1911	92,048	15.33
1901	64,412	15.06	1912	96,973	14.90

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COMPARISON OF DEATHS FROM PRINCIPAL DISEASES PER 1,000 POPULATION BY YEARS.

Causes.	1908	1909	1910	1911	1912
Anterior Poliomyelitis			.281	.01	.103
Apoplexy	.503	.51	.66	.89	1.04
Bright's Disease (Chronic)	1.42	1.61	1.69	1.65	1.76
Cancer	1.04	.783	.944	.91	.969
Diphtheria	.294	.391	.427	.097	.154
Diabetes	.196	.154	.179	.228	.267
Enteritis (under 2 years)	.343	.403	1.02	.847	.886
Heart Disease	1.14	1.03	1.21	1.52	1.43
Measles	.012	.083	.134	.108	.092
Pneumonia	1.19	1.47	1.51	1.17	.74
Scarlet Fever	.09	.28	.21	.02	.02
Tuberculosis (Pulmonary)	.85	1.04	.80	.83	.76
Typhoid Fever	.27	.13	.14	.19	.15
Whooping Cough	.024	.035	.25	.14	.134
Suicides	.22	.17	.21	.15	.22
Traumatism	.46	.33	.65	.43	.43
Homicides		.01	.04	.04	.06

TABLE SHOWING MORTALITY IN PERCENTAGES PER 1,000 INHABITANTS FOR ALL DISEASES AT DIFFERENT AGE PERIODS.

Age Periods.	1912.	Age Periods.	1912.
5–10	.237	40–50	1.629
10–15	.123	50–60	1.557
15–20	.319	60–70	1.948
20–30	1.165	70–80	1.814
30–40	1.124	Over 80	1.114

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REGISTERED MORTALITY FOR THE YEAR 1912.

ESTIMATED POPULATION, 96,973. DEATH RATE PER 1,000 POPULATION, 14.9. TOTAL DEATHS, 1,445.

STILL BIRTHS, 95. PREMATURE BIRTHS, 64.

CAUSES OF DEATH.	TOTALS.	SEX.		SOCIAL RELATION.					NATIVITY.					AGE.													
		Males.	Females.	Single.	Married.	Widowed.	Divorced.	Unknown.	Springfield.	Mass.	Other States.	Foreign.	Unknown.	Under One.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-80.	Over 80.	Unknown.
1. General Diseases	324	158	166	132	147	42	1	2	78	68	68	107	3	23	12	8	8	3	9	4	6	50	35	52	42	46	22	4	....
2. Diseases of the Nervous System and of the Organs of Special Sense	164	85	79	46	51	66	1	....	32	41	46	45	....	11	9	3	1	1	3	1	4	5	4	6	17	31	42	26	....
3. Diseases of the Circulatory System	175	88	87	24	88	60	3	....	15	46	43	69	2	1	....	....	....	....	2	....	3	6	15	18	29	39	33	29	....
4. Diseases of the Respiratory System	141	87	54	70	42	27	2	....	52	30	29	30	....	34	15	2	4	2	1	1	3	7	6	19	10	8	15	14	....
5. Diseases of the Digestive System	151	85	66	108	34	9	....	....	82	24	22	23	....	78	9	....	1	1	3	1	5	8	11	13	4	11	6	....	....
6. Nonvenereal Diseases of the Genitourinary System and Annexa	214	116	98	34	110	69	1	....	22	55	71	65	1	1	1	....	1	....	1	....	2	9	17	27	36	44	49	26	....
The Puerperal State	21	....	21	1	20	....	....	....	3	3	6	9	....	....	....	....	....	....	....	....	2	11	7	1	....	....	....	....	....
8. Diseases of the Skin and Cellular Tissue	7	1	6	....	2	5	....	....	1	2	4	....	....	....	....	....	....	....	....	....	....	....	1	....	1	1	....	4	....
9. Diseases of the Bones and of the Organs of Locomotion	4	3	1	2	2	....	....	....	1	1	1	1	....	....	1	....	....	....	....	....	1	1	....	1	....	....	....	....	....
10. Malformations	15	5	10	15	....	....	....	....	15	....	....	....	....	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
11. Diseases of Early Infancy	112	71	41	112	....	....	....	....	107	2	....	1	2	110	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
12. Old Age	8	2	6	1	1	6	....	....	....	4	2	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	6	....
13. Affections Produced by External Causes	100	74	26	44	41	14	1	....	15	24	24	36	1	2	1	2	1	1	4	5	5	16	13	21	12	8	7	2	....
14. Ill-defined Diseases	9	5	4	8	....	1	....	....	6	2	....	1	....	7	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....
TOTALS	1445	780	665	597	538	299	9	2	429	302	316	389	9	282	50	15	16	8	23	12	31	113	109	158	151	189	176	111	1

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REPORT OF DEATHS, SPRINGFIELD, 1912.

CAUSES OF DEATH.	Totals.	Sex.		Social Relation.					Nativity.					Age.												
		Males.	Females.	Single.	Married.	Widowed.	Divorced.	Unknown.	Springfield.	Mass.	Other States.	Foreign.	Unknown.	Under One.	1–2.	2–3.	3–4.	4–5.	5–10.	10–15.	15–20.	20–30.	30–40.	40–50.	50–60.	60–70.	70–80.	Over 80.	Unknown.
I. General Diseases.																												
1. Typhoid fever	15	12	3	7	7	1	..	..	2	5	3	5	..	..	..	..	..	..	..	..	..	9	4	2	..	..	..	..
2. Typhus fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Relapsing fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4. Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5. Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Measles	9	3	6	9	..	..	..	..	6	3	..	..	..	3	2	1	2	..	1	..	..	..	..	..	..	..	..	..
7. Scarlet fever	2	1	1	2	..	..	..	..	2	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..
8. Whooping cough	13	6	7	13	..	..	..	..	12	..	1	..	..	7	1	2	2	..	1	..	..	..	..	..	..	..	..	..
9. Diphtheria and croup	15	9	6	15	..	..	..	..	9	4	2	..	..	2	1	4	2	1	4	1	..	..	..	..	..	..	..	..
10. Influenza	3	1	2	1	1	1	..	..	1	..	1	..	1	1	..	..	..	..	..	..	..	1	..	..	..	..	1	..
11. Miliary fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12. Asiatic cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13. Cholera nostras	1	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
14. Dysentery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15. Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16. Yellow fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17. Leprosy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18. Erysipelas	4	1	3	4	..	..	..	..	3	..	..	1	..	3	..	..	..	..	..	..	..	..	1	..	..	..	..	..
19. Other epidemic diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20. Purulent infection and septicæmia	10	8	2	4	6	..	..	..	1	3	4	2	..	..	..	..	..	..	..	1	1	2	1	1	3	1	..	..
21. Glanders	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22. Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23. Rabies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24. Tetanus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25. Mycoses	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26. Pellagra	1	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
27. Beriberi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28. Tuberculosis of the lungs	74	50	24	28	40	6	..	..	13	14	16	31	..	..	..	..	..	..	1	..	2	28	17	15	7	4	..	..
29. Acute miliary tuberculosis	4	2	2	2	2	..	..	..	..	..	3	1	..	..	..	..	..	..	..	..	..	2	..	2	..	..	..	..
30. Tuberculous meningitis	15	8	7	14	1	..	..	..	10	1	1	3	..	2	4	1	2	1	1	..	1	3	..	..	..	..	..	..
31. Abdominal tuberculosis	3	1	2	2	1	..	..	..	1	..	1	1	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	..

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CAUSES OF DEATH.	Totals.	Sex.		Social Relation.					Nativity.					Age.												
		Males.	Females.	Single.	Married.	Widowed.	Divorced.	Unknown.	Springfield.	Mass.	(Other States.	Foreign.	Unknown.	Under One.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-80.	Over 80.	Unknown.
I. General Diseases—Continued.																													
32. **Pott's disease**	2	2	..	1	..	1	..	..	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..
33. White swelling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
34. Tuberculosis of other organs	3	2	1	3	..	..	..	..	2	..	1	..	..	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..
35. Disseminated tuberculosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
36. Rickets	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
37. Syphilis	3	..	3	3	..	..	..	..	3	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
38. Gonococcus infection	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
39. Cancer and other malignant tumors of the buccal cavity	2	2	..	..	1	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..
40. Cancer and other malignant tumors of the stomach, liver	27	6	21	2	18	7	..	..	1	4	8	14	..	..	..	..	..	..	..	..	..	1	1	5	4	11	5	..	..
41. Cancer and other malignant tumors of the peritoneum, intestines, rectum	14	6	8	1	10	3	..	..	2	4	3	5	..	..	..	..	..	..	..	..	..	..	1	3	3	6	1	..	..
42. Cancer and other malignant **tumors of the female genital organs**	22	..	22	1	14	6	1	..	..	4	8	10	..	..	..	..	..	..	..	..	..	..	2	7	2	9	2	..	..
43. **Cancer and other malignant tumors of the breast**	9	..	9	3	4	2	..	..	1	2	3	3	..	..	..	..	..	..	..	..	..	..	..	2	3	2	1	1	..
44. **Cancer and other malignant tumors of the skin**	2	2	..	..	1	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
45. **Cancer and other malignant tumors of other or unspecified organs**	16	12	4	4	8	4	..	..	1	7	5	3	..	..	..	..	..	1	..	..	..	..	..	1	6	3	5	..	..
46. Other tumors (tumors of the female genital organs excepted)	2	..	2	..	2	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
47. Acute articular rheumatism	1	..	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
48. Chronic rheumatism and gout	1	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
49. Scurvy	1	1	..	1	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
50. Diabetes	26	9	17	4	17	5	..	..	3	8	4	11	..	..	..	..	..	..	..	1	1	1	1	5	7	5	4	1	..
51. Exophthalmic goitre	1	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
52. Addison's disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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CAUSES OF DEATH.	Totals.	Sex. Males.	Sex. Females.	Social Relation. Single.	Married.	Widowed.	Divorced.	Unknown.	Nativity. Springfield.	Mass. Other States.	Foreign.	Unknown.	Age. Under One.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-80.	Over 80.	Unknown.
I. General Diseases—Continued.																												
53. Leuchæmia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
54. Anemia, chlorosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
54A. Pernicious anemia	8	4	4	..	5	2	..	1	..	3	..	4	1	..	..	..	..	..	..	..	1	..	2	2	2	1	..	..
55. Other general diseases	1	..	1	1	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
56. Alcoholism (acute or chronic)	13	9	4	4	7	1	..	1	2	2	3	5	1	..	..	..	..	..	..	..	..	4	5	2	1	1	..	..
57. Chronic lead poisoning	1	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
58. Other chronic occupation poisonings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
59. Other chronic poisonings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	324	158	166	182	147	42	1	2	78	68	68	107	3	23	12	8	8	3	9	4	6	50	35	52	42	46	22	4	..
II. Diseases of the Nervous System and of the Organs of Special Sense.																												
60. Encephalitis	3	3	..	2	1	..	..	..	2	1	..	..	..	..	1	..	..	..	..	1	..	..	1	..	..	..	..	..
61. Meningitis	12	7	5	8	4	..	..	..	5	1	4	2	..	5	..	1	1	..	1	..	2	2	..	..	..	..	..	..
61A. Cerebro-spinal fever	4	1	3	4	..	..	..	..	2	1	..	1	..	1	..	..	..	2	..	1	..	..	..	..	..	..	..	..
62. Locomotor ataxia	2	2	..	..	1	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..
63. Other diseases of spinal cord	3	1	2	..	2	1	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..
63A. Acute anterior poliomyelitis	10	9	1	9	1	..	..	..	6	2	2	..	..	1	4	1	..	..	..	2	1	..	..	1	..	..	..	..
64. Cerebral hemorrhage, apoplexy	101	47	54	11	33	57	..	..	9	29	34	29	..	3	..	..	..	..	..	..	1	..	3	11	25	35	23	..
65. Softening of the brain	2	..	2	..	1	1	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..
66. Paralysis without specified cause	6	2	4	1	2	3	..	..	..	1	1	4	..	..	..	..	..	..	..	..	..	..	..	1	2	1	2	..
67. General paralysis of the insane	5	2	3	..	2	3	..	..	..	1	2	2	..	..	..	..	..	..	..	..	..	..	..	1	2	1	1	..
68. Other forms of mental alienation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
69. Epilepsy	5	3	2	1	3	1	..	..	1	1	1	2	..	..	..	..	..	..	..	..	..	1	1	..	2	1	..	..
70. Convulsions (non-puerperal)	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
71. Convulsions of infants	3	3	..	3	..	..	..	..	3	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..
72. Chorea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
73. Neuralgia and neuritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
74. Other diseases of the nervous system	3	2	1	3	..	..	..	..	1	..	..	2	..	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..

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CAUSES OF DEATH.	Totals.	Sex.		Social Relation.					Nativity.					Age.												
		Males.	Females.	Single.	Married.	Widowed.	Divorced.	Unknown.	Springfield.	Mass.	Other States.	Foreign.	Unknown.	Under One.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-80.	Over 80.	Unknown.
75. Diseases of the eyes and their annexa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
76. Diseases of the ears	4	2	2	3	1	..	..	..	2	1	..	1	..	..	1	1	..	1	..	..	..	1	..	..	..	..	..	..	..
Total	164	85	79	46	51	66	1	..	32	41	46	45	..	11	9	3	1	1	3	1	4	5	4	6	17	31	42	26	..
III. Diseases of the Circulatory System.																													
77. Pericarditis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
78. Acute endocarditis	3	2	1	1	2	..	..	..	..	1	..	2	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	..	..
79. Organic diseases of the heart	139	66	73	21	69	47	2	..	14	32	37	54	2	1	..	..	..	..	1	..	2	6	13	15	24	30	24	23	..
80. Angina pectoris	11	6	5	1	6	3	1	..	1	5	2	3	..	..	..	..	..	..	..	..	..	..	..	1	2	4	3	1	..
81. Diseases of the arteries, atheroma, aneurism, etc	16	11	5	..	6	10	..	..	..	5	4	7	..	..	..	..	..	..	..	..	..	..	..	1	5	6	4	..	..
82. Embolism and thrombosis	5	2	3	..	5	..	..	..	..	3	..	2	..	..	..	..	..	..	..	..	..	..	1	1	2	..	..	1	..
83. Diseases of the veins (varices, hemorrhoids, phlebitis, etc.)	1	1	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
84. Diseases of the lymphatic system (lymphangitis, etc.)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
85. Hemorrhage; other diseases of the circulatory system	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	175	88	87	24	88	60	3	..	15	46	43	69	2	1	..	..	..	..	2	..	3	6	15	18	29	39	33	29	..
IV. Diseases of the Respiratory System.																													
86. Diseases of the nasal fossæ	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
87. Diseases of the larynx	2	2	..	1	1	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..
88. Diseases of the thyroid body	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
89. Acute bronchitis	14	10	4	10	1	3	..	..	8	3	..	3	..	5	4	..	1	..	..	..	..	..	..	..	..	1	..	3	..
90. Chronic bronchitis	6	3	3	1	1	4	..	..	1	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	4	..
91. Broncho-pneumonia	40	26	14	36	1	3	..	..	29	5	3	3	..	19	8	2	3	2	..	1	..	..	..	1	1	..	1	2	..
92. Pneumonia	72	42	30	21	36	13	2	..	13	22	19	18	..	10	3	..	..	..	1	..	3	7	5	14	8	5	12	4	..
93. Pleurisy	3	1	2	..	1	2	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..
94. Pulmonary congestion, pulmonary apoplexy	2	1	1	..	..	2	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..

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CAUSES OF DEATH.	Totals.	Sex.		Social Relation.					Nativity.					Age.													
		Males.	Females.	Single.	Married.	Widowed.	Divorced.	Unknown.	Springfield.	Mass.	Other States.	Foreign.	Unknown.	Under One.	1–2.	2–3.	3–4.	4–5.	5–10.	10–15.	15–20.	20–30.	30–40.	40–50.	50–60.	60–70.	70–80.	Over 80.	Unknown.
95. Gangrene of the lungs	1	1	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
96. Asthma	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
97. Pulmonary emphysema	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
98. Other diseases of the respiratory system (tuberculosis excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	141	87	54	70	42	27	2	..	52	30	29	30	..	34	15	2	4	2	1	1	3	7	6	19	10	8	15	14	..
V. Diseases of the Digestive System.																												
99. Diseases of the mouth and annexa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
100. Diseases of the pharynx	1	1	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
101. Diseases of the œsophagus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
102. Ulcer of the stomach	3	3	..	1	2	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..
103. Other diseases of the stomach (cancer excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
104. Diarrhœa and enteritis (under 2 years)	86	47	39	86	..	..	..	..	72	11	2	1	..	77	9	..	..	..	..	..	..	..	..	..	..	..	..	..
105. Diarrhœa and enteritis (2 years and over)	10	4	6	2	5	3	..	..	2	..	3	5	..	..	..	..	..	1	1	..	..	1	1	..	..	3	3	..	..
106. Hookworm disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
107. Intestinal parasites	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
108. Appendicitis and typhlitis	15	11	4	10	5	..	..	..	3	7	3	2	..	..	..	..	..	..	2	1	3	5	2	2	..	..	..	..	..
109. Hernia, intestinal obstruction	13	5	8	5	5	3	..	..	4	1	4	4	..	1	..	..	1	..	..	..	1	1	1	4	1	1	2	..	..
110. Other diseases of the intestines	4	3	1	..	3	1	..	..	..	1	1	2	..	..	..	..	..	..	..	..	..	..	1	1	1	1	..	..	..
111. Acute yellow atrophy of the liver	1	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
112. Hydatid tumor of the liver	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
113. Cirrhosis of the liver	6	5	1	1	4	1	..	..	..	1	1	4	..	..	..	..	..	..	..	..	..	..	1	3	1	1	..	..	..
114. Biliary calculi	8	4	4	1	6	1	..	..	..	2	5	1	..	..	..	..	..	..	..	..	..	..	..	2	1	4	1	..	..
115. Other diseases of the liver	1	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
116. Diseases of the spleen	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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CAUSES OF DEATH	Totals.	Sex.		Social Relation.					Nativity.					Age.													
		Males.	Females.	Single.	Married.	Widowed.	Divorced.	Unknown.	Springfield.	Mass.	Other States.	Foreign.	Unknown.	Under One.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-80.	Over 80.	Unknown.
117. Simple peritonitis (non-puerperal)	3	1	2	1	2	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..
118. Other diseases of the digestive system (cancer and tuberculosis excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	151	85	66	108	34	9	..	..	82	24	22	23	..	78	9	..	1	1	3	1	5	8	11	13	4	11	6	..	..
VI. Non-venereal Diseases of the Genitourinary System and Annexa.																													
119. Acute nephritis	19	13	6	6	12	1	..	..	4	2	3	10	..	1	1	..	1	..	..	..	..	1	4	4	4	1	2	..	..
120. Chronic Bright's disease	171	92	79	24	83	63	1	..	16	47	63	44	1	..	..	..	..	..	1	..	..	4	8	20	29	41	43	25	..
121. Chyluria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
122. Other diseases of the kidneys and annexa	3	3	..	1	2	..	..	..	1	..	1	1	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	..	..
123. Calculi of the urinary passages	3	2	1	2	1	..	..	..	..	1	..	2	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..
124. Diseases of the bladder	2	1	1	..	..	2	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..
125. Diseases of the urethra, urinary abscess, etc	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
126. Diseases of the prostate	5	5	..	..	3	2	..	..	..	3	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	3	1	..
127. Non-venereal diseases of the male genital organs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
128. Uterine hemorrhage (non-puerperal)	1	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
129. Uterine tumor (non-cancerous)	2	..	2	..	2	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..
130. Other diseases of the uterus	2	..	2	..	1	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..
131. Cysts and other tumors of the ovary	1	..	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
132. Salpingitis and other diseases of the female genital organs	5	..	5	1	4	..	..	..	1	..	1	3	..	..	..	..	..	..	..	..	1	3	1	..	..	..	..	..	..
133. Non-puerperal diseases of the breast (cancer excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	214	116	98	34	110	69	1	..	22	55	71	65	1	1	1	..	1	..	1	..	2	9	17	27	36	44	49	26	..

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REPORT OF DEATHS, SPRINGFIELD, 1912.—CONTINUED.

CAUSES OF DEATH.	Totals.	Sex.		Social Relation.					Nativity.					Age.														
		Males.	Females.	Single.	Married.	Widowed.	Divorced.	Unknown.	Springfield.	Mass.	Other States.	Foreign.	Unknown.	Under One.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-80.	Over 80.	Unknown.
VII. The Puerperal State.																												
134. Accidents of pregnancy	2	..	2	..	2	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..
135. Puerperal hemorrhage	1	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
136. Other accidents of labor	3	..	3	..	3	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	..
137. Puerperal septicæmia	11	..	11	..	11	..	..	..	..	3	2	6	..	..	..	..	..	..	..	..	1	2	2	..	..	..	..	..	..
138. Puerperal albuminuria and convulsions	4	..	4	1	3	..	..	..	2	..	1	1	..	..	..	..	..	..	..	..	1	1	2	..	..	..	..	..	..
139. Puerperal phlegmasia alba dolens, embolus, sudden death	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
140. Following childbirth (not otherwise defined)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
141. Puerperal diseases of the breast	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	21	..	21	1	20	..	..	..	3	3	6	9	..	..	..	..	..	..	..	..	2	11	7	1	..	..	..	..	..
VIII. Diseases of the Skin and Cellular Tissue.																												
142. Gangrene	6	1	5	..	1	5	..	..	1	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..
143. Furuncle	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
144. Acute abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
145. Other diseases of the skin and annexa	1	..	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Total	7	1	6	..	2	5	..	..	1	2	4	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	4	..
IX. Diseases of the Bones and of the Organs of Locomotion.																												
146. Diseases of the bones (tuberculosis excepted)	4	3	1	2	2	..	..	..	1	1	1	1	..	..	1	..	..	..	..	..	1	1	..	1	..	..	..	..	..
147. Diseases of the joints (tuberculosis and rheumatism excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
148. Amputations	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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CAUSES OF DEATH.	Totals.	Sex.		Social Relation.					Nativity.					Age.													
		Males.	Females.	Single.	Married.	Widowed.	Divorced.	Unknown.	Springfield.	Mass.	Other States.	Foreign.	Unknown.	Under One.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-80.	Over 80.	Unknown.
IX. Diseases of the Bones and of the Organs of Locomotion.—Continued.																												
149. Other diseases of the organs of locomotion	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	4	3	1	2	2	..	..	..	1	1	1	1	..	..	1	..	..	..	..	..	1	1	..	1	..	..	..	..	..
X. Malformations.																												
150. Congenital malformations (stillbirths not included)	15	5	10	15	..	..	..	..	15	..	..	..	..	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	15	5	10	15	..	..	..	..	15	..	..	..	..	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XI. Diseases of Early Infancy.																												
151. Congenital debility, icterus, and sclerema	36	22	14	36	..	..	..	..	35	..	..	1	..	35	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
151B. Premature birth	64	41	23	64	..	..	..	..	61	2	..	..	1	64	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
152. Other diseases peculiar to early infancy	11	8	3	11	..	..	..	..	11	..	..	..	..	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
153. Lack of care	1	..	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Total	112	71	41	112	..	..	..	..	107	2	..	1	2	110	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
XII. Old Age.																												
154. Senility	8	2	6	1	1	6	..	..	..	4	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	6	..
Total	8	2	6	1	1	6	..	..	..	4	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	6	..
XIII. Affections Produced by External Causes.																												
155. Suicide by poison	6	3	3	2	4	..	..	..	1	..	3	2	..	..	..	1	..	..	..	..	..	3	1	..	..	..	1	..	..
156. Suicide by asphyxia	10	5	5	2	5	2	1	..	1	4	3	1	1	..	..	..	..	..	..	..	..	3	2	1	1	1	2	..	..
157. Suicide by hanging or strangulation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
158. Suicide by drowning	1	1	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
159. Suicide by firearms	5	5	..	2	3	..	..	..	1	1	1	2	..	..	..	..	..	..	..	..	1	2	..	1	1	..	..	..	..
160. Suicide by cutting or piercing instruments	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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CAUSES OF DEATH.	Totals.	Sex. Males.	Sex. Females.	Social Relation. Single.	Married.	Widowed.	Divorced.	Unknown.	Nativity. Springfield.	Mass.	Other States.	Foreign.	Unknown.	Age. Under One.	1–2.	2–3.	3–4.	4–5.	5–10.	10–15.	15–20.	20–30.	30–40.	40–50.	50–60.	60–70.	70–80.	Over 80.	Unknown.
XIII. Affections Produced by External Causes.—Continued.																													
161. Suicide by jumping from high places	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
162. Suicide by crushing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
163. Other suicides	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
164. Poisoning by food	1	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
165. Other acute poisonings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
166. Conflagration	1	..	1	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
167. Burns (conflagration excepted)	7	3	4	3	2	2	..	..	2	1	1	3	..	1	..	..	..	1	..	1	..	1	..	1	1	..	1	..	..
168. Absorption of deleterious gases (conflagration excepted)	7	4	3	4	3	..	..	..	1	2	1	3	..	..	1	..	..	..	2	1	..	..	2	4	..	..	..	1	..
169. Accidental drowning	4	3	1	4	..	..	..	..	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
170. Traumatism by firearms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
171. Traumatism by cutting or piercing instruments	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
172. Traumatism by fall	18	17	1	5	8	5	..	..	1	4	5	8	..	..	..	..	..	..	..	..	..	3	2	5	2	4	1	1	..
173. Traumatism in mines or quarries	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..	..
174. Traumatism by machines	4	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
175. Traumatism by other crushing (vehicles, railroads, landslides, etc.)	20	19	1	10	9	1	..	..	1	5	4	10	..	..	..	..	..	..	..	2	1	4	3	4	6	..	..	..	..
176. Injuries by animals	2	2	..	..	2	..	..	..	1	..	2	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
177. Starvation	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
178. Excessive cold	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
179. Effects of heat	2	1	1	1	1	..	..	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
180. Lightning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
181. Electricity (lightning excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..
182. Homicide by firearms	2	2	..	2	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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REPORT OF DEATHS, SPRINGFIELD, 1912.—CONTINUED.

CAUSES OF DEATHS.	Totals.	Sex.		Social Relation.					Nativity.					Age.														
		Males.	Females.	Single.	Married.	Widowed.	Divorced.	Unknown.	Springfield.	Mass.	Other States.	Foreign.	Unknown.	Under One.	1-2.	2-3.	3-4.	4-5.	5-10.	10-15.	15-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-80.	Over 80.	Unknown.
XIII. Affections Produced by External Causes.—Continued.																												
183. Homicide by cutting or piercing instruments	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
184. Homicide by other means	4	2	2	4	..	..	..	..	3	1	..	..	..	..	..	..	1	..	2	..	..	..	1	..	..	..	..	..
185. Fractures (cause not specified)	4	2	2	..	1	3	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	1	..	1	2	..	..
186. Other external violence	1	1	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Total	100	74	26	44	41	14	1	..	15	24	24	36	1	2	1	2	1	1	4	5	5	16	13	21	12	8	7	2	..
XIV. Ill-defined Diseases.																												
187. Ill-defined organic disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
188. Sudden death	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
189. Cause of death not specified or Ill-defined	9	5	4	8	..	1	..	..	6	2	..	1	..	7	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Total	9	5	4	8	..	1	..	..	6	2	..	1	..	7	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..
TOTALS	1445	780	665	597	538	299	9	2	429	802	316	389	9	282	50	15	16	8	23	12	31	113	109	158	151	189	176	111	1

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COMMUNICABLE DISEASES.

This class of diseases is, in a great measure, preventable, but the avenues of infection are so many that as the city increases in population and the conditions of living become more complex it is hardly to be expected there will be a total absence of the more common diseases at any season of the year. The home treatment of these diseases calls for the same care in preventing the spread of infection as is given in hospitals devoted to that work, and whenever secondary infections occur it is owing to a failure to properly follow out the instructions given by the physician and the Health Department. The individual responsibility already mentioned is brought out strongly in the care to be exercised in isolation of patients and guarding other members of the family from contracting the disease. The following tables showing reported cases of communicable diseases during the past five years are of especial interest, as they indicate the control which the department has been able to exercise over diseases of the more contagious nature. Although the population has increased by 10,000 during this term, Diphtheria, Scarlet Fever, and Typhoid Fever have not increased, but on the other hand have diminished. This showing is submitted as a very creditable one, and although it requires a series of years in which to demonstrate the efficiency of methods in health work, the results obtained offer every encouragement for continuing along the lines now being followed.

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TABLE SHOWING REPORTED CASES OF COMMUNICABLE DISEASES BY MONTHS.

Diseases.	Jan.	Feb.	Mch.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Actinomycosis..	....	....	....	....	....	....	....	....	....	....	....	....	....
Asiatic Cholera..	....	....	....	....	....	....	....	....	....	....	....	....	....
Cerebro - Spinal Meningitis....	....	....	....	2	....	....	....	....	....	....	....	....	2
Diphtheria.....	6	11	15	11	6	7	3	4	9	23	17	19	131
Glanders.....	....	....	....	....	....	....	....	....	....	....	....	....	....
Leprosy.....	....	....	....	....	....	....	....	....	....	....	....	....	....
Malignant Pustule	....	....	....	....	....	....	....	....	....	....	....	....	....
Measles.....	179	117	115	72	37	16	5	2	1	1	9	44	598
Ophthalmia Neonatorum.....	2	2	....	3	....	4	2	1	....	....	1	3	18
Scarlet Fever...	26	16	13	8	25	8	4	5	1	2	7	11	126
Smallpox.....	....	....	....	....	....	....	....	....	....	....	....	....	....
Tetanus.....	....	....	....	....	....	....	....	....	....	....	....	....	....
Trachoma.....	....	....	....	....	....	....	....	....	2	....	....	....	2
Trichinosis.....	....	....	....	....	....	....	....	....	....	....	....	....	....
Tuberculosis.....	7	11	10	19	18	9	19	15	15	20	10	13	166
Typhoid Fever..	4	3	2	1	3	2	13	30	11	10	5	14	98
Typhus Fever...	....	....	....	....	....	....	....	....	....	....	....	....	....
Varicella.....	10	6	4	11	12	8	2	....	....	3	6	10	72
Whooping Cough	22	7	8	3	4	5	9	3	9	....	6	24	100
Yellow Fever....	....	....	....	....	....	....	....	....	....	....	....	....	....
Anterior Poliomyelitis.....	....	....	1	....	5	3	19	10	4	....	1	....	43
Inflamed Eyes...	....	....	....	....	1	1	1	1	2	....	....	1	7

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TABLE SHOWING REPORTED CASES AND DEATHS OF COMMUNICABLE DISEASES BY YEARS WITH POPULATION.

Diseases.	1908. 81,425		1909. 84,237		1910. 88,926		1911. 92,048		1912. 96,973	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Actinomycosis	....	....	....	....	....	....	....	....	....	....
Asiatic Cholera	....	....	....	....	....	....	....	....	....	....
Cerebro-Spinal Meningitis	1	2	1	1	3	3	1	1	2	4
Diphtheria	287	24	328	33	336	38	132	9	131	15
Glanders	....	....	....	....	....	....	....	....	....	....
Leprosy	....	....	....	....	....	....	....	....	....	....
Malignant Pustule	....	....	....	....	....	....	....	....	....	....
Measles	92	1	324	7	551	12	536	10	598	9
Ophthalmia Neonatorum	1	....	7	....	12	2	15	....	18	....
Scarlet Fever	173	8	138	24	155	19	179	2	126	2
Smallpox	....	....	....	....	....	....	....	....	....	....
Tetanus	2	3	1	....	5	4	5	1	....	....
Trichinosis	....	....	....	....	....	....	....	....	....	....
Tuberculosis	91	82	106	101	137	87	165	101	166	101
Typhoid Fever	90	22	57	11	73	13	73	18	98	15
Typhus Fever	....	....	....	....	....	....	....	....	....	....
Trachoma	....	....	....	....	....	....	....	....	2	....
Varicella	52	1	121	....	57	....	113	....	72	....
Yellow Fever	....	....	....	....	....	....	....	....	....	....
Whooping Cough	16	2	59	3	106	23	153	13	100	13
Anterior Poliomyelitis	....	....	....	....	130	25	8	1	43	10
Inflamed Eyes	....	....	....	....	....	....	....	....	7	....

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TUBERCULOSIS.

One hundred and sixty-six cases of tuberculosis have been reported during the year, with seventy-four deaths from pulmonary tuberculosis and twenty-seven deaths from all other forms. This number corresponds very closely with the returns for 1911. It may be premature to say that the incidence of tuberculosis has reached its highest point in this city as the only means of arriving at such a conclusion is from the reported cases. Although the time which has elapsed is short since an active warfare against the disease has been carried on, much encouragement should be felt by all from the fact that there is no increase in the new cases reported. The total number of cases in the city can only be approximately estimated, but comparing the deaths and reported cases for the last five years, it shows that there are 203 known cases. This number, no doubt, is below the actual number in existence, and it calls for a strong appeal to physicians that they comply with the Statute which requires that these diseases should be reported to the Board of Health. If the work of eradicating tuberculosis is to succeed every case must be known and located. The work of tuberculosis societies and all other agencies which are interested is hampered and made less efficient by constant fighting in the dark. The sources of infection must be determined and proper information given and means used to protect the individual affected, not only against himself, but to afford protection for all those with whom he comes into immediate contact. Reluctance or opposition to furnishing the information is suicidal to the work which is being done, and the call for co-operation by every one in the crusade against tuberculosis is insistent and cannot be disregarded. Tuberculosis affects chiefly those who through poverty and ignorance, with the deprivations and hardships therein implied, are unable to resist the invasion of the germs of this disease, and the work of controlling tuberculosis is therefore in a large measure

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to be carried on through all the agencies which have to do with the betterment of the conditions of living. Sanatorium and hospital treatment has a distinct place in this work, but the impossibility of segregating all cases of tuberculosis in this way is very apparent. It means then that the work along educational, social service, and sanitation lines must be pushed with all the energy possible. Insanitary housing conditions, over-crowding, lack of sunlight and fresh air, are important agencies through which the resistance of the individual is lowered and he becomes an easy victim for the disease. These conditions must be remedied, and the special work undertaken by the housing committee of the Union Relief Association in investigating the housing conditions of this city should be received in the same spirit that was manifested in its undertaking. There is no cause for alarm as to the existence of any great tenement house or slum conditions in Springfield at the present, but the time to act in these matters is now, for prevention is wonderfully easier and cheaper than the cure. With the enactment of laws controlling these matters and authority given to boards of health to carry out the provisions of such laws, the tendency in this direction can be checked and existing evils remedied.

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TABLE SHOWING DEATH RATE OF TUBERCULOSIS FROM 1890, ESTIMATED ON POPULATION.

YEAR.	POPULATION.	DEATHS.	RATE.
1890	*44,179	114	2.58
1895	*51,522	97	1.88
1900	*62,059	111	1.78
1901	64,412	122	1.96
1902	66,854	111	1.66
1903	69,389	114	1.64
1904	72,020	123	1.7
1905	*73,540	120	1.63
1906	76,255	116	1.52
1907	78,707	114	1.44
1908	81,425	91	1.11
1909	84,237	101	1.19
1910	*88,926	87	.97
1911	92,048	101	1.09
1912	96,973	101	1.04

*Official Census.

POLIOMYELITIS.

Forty-three cases were reported during the year, the first case in March and the last case in November.

At the International Congress of Hygiene it was announced that this disease had been transmitted through the agency of the horse fly to a series of monkeys who were bitten by the flies confined in cages. This method of transmission is not claimed to be the only way in which the disease is conveyed, but it emphasizes the importance of more stringent regulations regarding the cleanliness of stables and their surroundings. No other new matter has been given out concerning the method of infection except the increasing belief that human contact is the chief means of distribution of the virus of the disease. This attitude has been assumed by the Board from the beginning, and it is believed that the strict isolation enforced in 1910, 1911, and during the past year has had a decided effect in restricting the number of cases of poliomyelitis which have

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occurred in this city. It will be noted that 19 cases were reported in July, but the number reported in August was only nine. The same results occurred in 1910, when the cases in July numbered 67 and in August 30.

TYPHOID FEVER.

Ninety-eight cases of typhoid were reported during the year, with fifteen deaths; six of these deaths were of non-residents brought to local hospitals for treatment, which would give a case mortality of 9.2. The sources of infection as far as could be learned were as follows:—

Thirty-four imported cases, including those out of town, within thirty days.

Seven cases occurring in one institution, probably from a common source.

Five cases using the same polluted water.

Three cases of railroad employees on out-of-town trips.

Six cases occurring on one milk route.

Seven secondary cases with direct or indirect exposure to existing cases.

Two cases laundry workers in hospital.

Thirty-four in which the source of infection could not be traced.

The six cases occurring on one milk dealer's route may have been a coincidence, as the only information obtainable was that one of the dairies supplying milk to the dealer had employed a laborer for about two weeks who had disappeared before the cases were reported. No cases were traceable to the city water supply.

DIPHTHERIA.

The number of cases of diphtheria has shown a gradual decline during the past five years, with 132 in 1911 and 131

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in 1912. There were fifteen deaths, giving a case mortality of 12.2. There was no case of diphtheria reported from July 6 to August 20, a period of six weeks, but it is hardly to be expected that diphtheria will be entirely eliminated from the city. The important agents in lowering the mortality are early diagnosis and prompt use of antitoxin.

SCARLET FEVER.

Scarlet fever has diminished the past year. One hundred and twenty-six cases were reported, with two deaths, giving a case mortality of 1.6. This low mortality indicates the mild type of the disease which has prevailed during the year.

OTHER COMMUNICABLE DISEASES.

Measles was very prevalent during the first four months, with a total during the year of 598 reported cases, with nine deaths, eight of which occurred in children under five years of age.

Whooping Cough gave 100 cases with 13 deaths. Twelve of these were under five years of age, with a case mortality of 13 per cent. The bronchial complications which occur in these diseases are responsible for the high mortality, and again emphasizes the statement made in the yearly reports as to the importance of using every precaution in preventing the occurrence of these diseases in children under five years of age.

INFANTILE MORTALITY.

The total number of deaths occurring from all diseases under one year of age for 1912 was 282, and the estimated birth registration was 2,900, making the infant mortality 9.7. The number of deaths from entero-colitis, under two years of age, was 86. Of this number 72 occurred under one year.

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The death returns show 130 infants died from different causes under three months of age. There were 64 premature births, 36 from congenital debility and 30 from entero-colitis; 61 of the number died under five days, and 40 under three days. The total number of deaths, from all diseases, under two years was 332, which shows a mortality of 22.9% of the total mortality from all diseases at all ages. It also appears that one child in every eleven dies before reaching one year of age. The lessening of this mortality is something which should appeal strongly to every one, and finds expression in the efforts of the Baby Feeding Associations, the improving of housing conditions, and the general broadening of all health department activities. The saving of these lives is a very definite undertaking and its accomplishment is along well-known lines. An infantile mortality of 9.7% is to be regarded as comparatively very low and places this city in a desirable position as to its infantile mortality rate. Improvement will come with the lessening of deaths from the chief causes above given. The reduction of deaths from entero-colitis alone of one half would mean a saving of thirty-six lives and the reduction of infantile mortality to 8.5%.

HEALTH DEPARTMENT HOSPITAL.

With the improved facilities provided in caring for contagious diseases and the addition of a ward for tuberculosis, the hospital is now called the Health Department Hospital nstead of Isolation Hospital, a term which has always been more or less objectionable to patients. One hundred and fifty-two patients have been received in the different wards during the year, and with the arrangement of the wards, along with the conveniences provided, no cross infections have occurred, and no employee has contracted any contagious disease during the year. The dormitory facilities which were temporarily provided have proven to be very inconvenient

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and unsatisfactory, not only to the Health Department, but to the Pauper Department as well, and it is hoped that the Administration Building, plans for which have been drawn and approved, will be constructed during the present year. This building will provide a dormitory for nurses and other employees, with suitable offices and waiting room, commodious and well-arranged general kitchens, dining rooms, and store rooms. The heating facilities now provided are altogether below the necessary requirements and should receive early attention. The hospital should also be provided with proper laundry facilities and the matter should be attended to without further delay. The ward for tuberculosis has been in operation for about ten months. Forty-nine patients have been received during this time, 35 males and 14 females. The arrangement of the hospital and the facilities provided for the care of patients have received the approval of the Trustees of Hospitals for Consumptives, and the city is entitled to the state subsidy for patients treated. During the first three months only patients in the advanced stages of tuberculosis were admitted, but with a few vacant beds remaining it was thought best to admit as far as possible those who had made applications for sanatorium treatment and were on the waiting list for admission. This plan has been helpful and will be continued as the capacity of the hospital permits. In reviewing the work, the value of proper surroundings with good food and care shows itself in the way patients in the various stages of this disease have responded.

Patients admitted during the year (10 months),	49
Patients in hospital December 31, 1912,	19
Number condition improving,	13
Number condition not improving,	6
Number of deaths,	15
Number of patients transferred to other institutions(improved),	4
Number discharged with disease arrested,	2
Number dismissed improved,	3

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Number dismissed unimproved,	4
Number discharged for refusing to obey hospital rules,	2
Total number of days for tuberculosis patients,	3,244
Average number of days per patient,	64.01

The remodeled contagious disease wards were opened for the reception of patients April 3, and 103 patients have been admitted during the balance of the year. Cases of diphtheria, scarlet fever, poliomyelitis, measles, ophthalmia neonatorum, and mixed infections have been cared for, and the arrangement of the building has proven to be most satisfactory. The four large inclosed piazzas are especially appreciated by patients. The usual data concerning the work of the hospital appears in the following table:

Number of patients admitted during the year,	103
Number of intubations for diphtheria,	3
Number of deaths following intubation for diphtheria,	0
Number of private patients admitted during the year,	29
Number of physicians treating private cases,	16
Total number of days for diphtheria patients,	420
Average number of days for diphtheria patients,	13.01
Total number of days for scarlet fever patients,	1,561
Average number of days for scarlet fever patients,	35.41
Total number of days for other diseases,	556
Total number of days for all diseases,	2,537
Number of deaths from diphtheria,	5
Number of deaths from scarlet fever,	0
Number of deaths from poliomyelitis,	1
Number of deaths from other diseases,	0
Total number of deaths for all diseases,	6

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CONTAGIOUS DISEASES.

Patients admitted by months.

	Diphtheria.	Scarlet Fever.	Ophthalmia Neonatorum.	Others.	Mixed Infection.	Poliomyelitis.	Measles.	Total.
January	2	3	0	1	0	0	0	6
February	2	7	1	1	0	0	0	11
March	1	3	0	0	0	0	0	4
April	2	2	3	1	0	0	1	9
May	0	8	0	2	1	0	0	11
June	2	4	2	0	0	1	0	9
July	0	2	0	0	0	0	0	2
August	1	3	1	0	0	4	0	9
September	5	1	0	0	0	1	0	7
October	4	2	0	0	0	0	0	6
November	6	4	0	0	0	1	2	13
December	7	5	2	1	0	0	1	16
Total	32	44	9	6	1	7	4	103

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AGE OF PATIENTS.

Age	Under 1 year		1-5		5-10		10-20		20-30		30-40		40-50		Over 50		Total		Total
Sex	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Diphtheria	0	0	8	4	4	6	4	3	1	1	0	1	0	0	0	0	17	15	32
Scarlet Fever	0	0	4	5	6	4	6	5	5	3	1	4	0	0	1	0	22	22	44
Mixed Infection	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Poliomyelitis	0	0	2	1	1	0	0	0	0	0	1	0	0	1	1	0	5	2	7
Others	8	3	1	0	1	2	1	0	0	2	1	0	0	0	0	0	12	7	19
Totals	8	3	15	11	12	12	11	8	6	6	3	5	0	1	2	0	56	47	103

TUBERCULOSIS WARD.

Table showing age and sex of patients.

Age	Under 1 year		1-5		5-10		10-20		20-30		30-40		40-50		Over 50		Total		Total
Sex	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Tuberculosis	0	1	0	0	0	0	6	1	9	4	10	4	7	3	3	1	35	14	49

PATIENTS ADMITTED BY MONTHS.

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
0	9	2	3	2	2	4	4	4	5	9	5	49

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OCCUPATION OF PATIENTS.

Infants,	1
Students,	2
Stenographer,	1
Clerks,	4
Chef,	1
Laborers,	9
Factory work,	7
Domestics,	2
Lithographer,	1
Teamsters,	2
Machinist,	1
Housewives,	7
Inspector,	1
Bricklayer,	1
Slate roofer,	1
Railroad conductor,	1
Compositor,	1
Stone cutter,	1
Wood turning,	1
Commercial traveler,	1
Painters,	2
Piano tuner,	1

LABORATORIES.

The laboratories of the department are located at 137½ State street, and its facilities are free to any physician in Springfield as an aid in the diagnosis of diphtheria, tuberculosis, and typhoid fever. It should be borne in mind, however, that negative reports in tuberculosis and typhoid fever are not by any means conclusive evidence against the presence of these diseases, and that negative laboratory findings do not release physicians from the responsibility of reporting cases when clinical symptoms afford a positive diagnosis. All reports of communicable diseases should be made to the office on Pynchon street and not to the laboratory. Addressed postal cards are furnished by the department and can always be obtained at the office. The outer office of the laboratory is always access-

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ible and antitoxin and the different outfits can be obtained at any time. The attention of the Municipal Group Commission was early called to the desirability of providing accommodations for laboratory purposes in the new building, so that it could be utilized at any time in the future when the growth of the laboratory made an enlargement necessary, or whenever the city thought it best to assume the increased expense which would attend its operation.

TABLES SHOWING LABORATORY EXAMINATIONS BY MONTHS.

DIPHTHERIA.

MONTHS.	DIAGNOSIS.		RELEASE.		TOTAL Examinations.
	Positive.	Negative.	Positive.	Negative.	
January, . . .	8	72	4	20	104
February, . . .	9	65	1	19	94
March, ...	13	53	3	20	89
April, ...	11	59	10	30	110
May, ...	7	39	7	17	70
June, ...	6	28	0	7	41
July, ...	2	15	4	10	31
August, ...	4	21	0	0	25
September, . . .	10	26	10	27	73
October, . . .	20	54	12	41	127
November, . . .	17	40	4	33	94
December, . . .	20	68	12	27	127
Totals, . . .	127	540	67	251	985

19% positives.

TYPHOID FEVER.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Positive	1	4	1	0	2	4	7	11	2	2	2	4	40
Negative	4	1	3	3	5	2	1	10	9	11	3	3	55
Doubtful	2	0	0	1	0	0	2	2	1	2	1	1	12
Totals	7	5	4	4	7	6	10	23	12	15	6	8	107

37.4% positives.

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TUBERCULOSIS.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Positive	0	6	1	11	4	11	7	4	12	6	8	7	77
Negative	16	23	28	21	23	14	28	20	17	24	27	24	265
Totals	16	29	29	32	27	25	35	24	29	30	35	31	342

22.5% positives.

MEDICAL INSPECTION OF SCHOOLS AND PHYSICAL EXAMINATION OF SCHOOL CHILDREN.

Medical inspection of schools has now developed to such an extent that it may be considered an important part of the comprehensive plan for general improvement of the public health. Dealing as it does with those who are to become our future citizens, it offers a fertile field for planting in receptive soil the essential principles of personal sanitation and hygiene. The beneficial effects of this work are to be seen in increasing degree as these children take their place in the activities of life with correct ideas and knowledge of the essentials of right living. The inspection work at present is carried on by thirteen physicians (now under Civil Service appointment) who visit each public and parochial school on Monday and Thursday weekly during the school year. These visitations are designated the routine inspection work, which is carried on under the following heads: A, The detection of cases of communicable diseases with their exclusion from school and an immediate report to the Board of Health. B, The examination of children with parasitic skin disease and affections, with exclusion from school unless receiving proper treatment at home. C, Examination of children who have been absent from school two days on account of illness. Children recovering from any of the

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communicable diseases except diphtheria or scarlet fever are only readmitted to school after a favorable examination by the inspector. Diphtheria and scarlet fever are readmitted only by card from the Board of Health. D, Children ill from any cause are also sent to the inspector, and when indicated suitable cards are sent to the parents informing them of conditions found.

The above mentioned routine work is supplemented at any time by special daily inspections of children in the different rooms where cases of diphtheria or scarlet fever have occurred. Cultures from the throat are taken of any suspicious case and the daily oversight continued until the danger of further infection is passed. The desk, seat, and other washable articles used by the pupil are treated with a disinfectant; books, pencils, papers, etc., are either destroyed or fumigated. School-rooms are not disinfected or schools closed on account of the presence of infectious disease. Dependence is placed on daily inspection as above outlined, and thus far the method has proven satisfactory and successful. A simple card system of recording the work of inspection is used and shows at all times the amount of work which is being done. Each inspector sends a weekly report of inspections to the Board of Health office so that the department is always in touch with the work. The statutes require that every child attending the public schools must be vaccinated, with certain exceptions therein stated. This work is performed by the inspectors upon request, but no child is vaccinated by an inspector without written permission from parents or guardians. Children between fourteen and sixteen years of age desiring to work are also examined by the inspectors and certificates given stating their fitness to perform the work required. These children go to the office of the medical inspector who has charge of the schools in the district where the applicant resides. In addition to the routine inspection, a yearly physical examination of every child in the

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common schools has been established. This examination includes the inspection of teeth, tonsils, and adenoids. A card record is kept of the yearly examination. The card is arranged to provide a record of these examinations for ten years, beginning with the kindergarten, and accompanies the pupil from year to year as he is promoted. In other words, these records show at a glance the physical condition and development of the child during his school life. The cards remain in the schools for the special use and information of the school authorities and should become valuable in directing the education of the child. The testing of eyesight and hearing is conducted by the room teacher as directed by statute. The information is, however, added to the physical record card. The entire work of inspection is now fairly well systematized, and future enlargement of its scope will follow as rapidly as the needs become more defined. The percentage of children absent from school on account of sickness or ailments of various kinds is being reduced, but it is believed that this absent percentage can be still further lowered by an enlargement of the inspection service which would come through the employment of school nurses. This matter is believed to be of so much importance that the school nurse has become an essential part of medical inspection in many cities. A beginning should be made here, and it is hoped to be able to provide at least two nurses at an early date who will supplement the work of the inspector by a more personal and detailed knowledge of the conditions surrounding the child in the home, and in a tactful manner become of assistance to many parents by timely advice and instruction in matters connected with the welfare of the child, as well as actually assisting in special cases that may be out of school for lack of proper treatment. The volume of work has increased to such an extent that the salaries of medical inspectors should be increased, and it is hoped the matter will receive favorable attention.

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TABULATION OF REPORTS OF MEDICAL INSPECTORS OF SCHOOLS FOR THE YEAR ENDING DECEMBER 31, 1912.

LIST OF DISEASES FOUND IN THE SCHOOLS.

	1911	1912
I.—Infectious Diseases.		
Diphtheria,	3	3
Scarlet Fever,	11	5
Measles,	125	149
Mumps,	202	298
Whooping Cough,	61	77
Chicken Pox,	99	90
Tuberculosis,	2	2
Influenza,	19	26
Other Diseases,	11	9
II.—Diseases of Oral and Respiratory Tract.		
Acute Pharyngitis,	234	388
Acute Tonsilitis,	318	400
Chronic Hypertrophic Tonsils,	*3,299	137
Acute Rhinitis,	42	109
Defective Nasal Breathing,	14	23
Adenoids,	*2,010	74
Other Diseases,	223	92
Defective Teeth,	*6,603	555
III.—Diseases of Eye and Ear.		
Acute Otitis Media,	21	18
Chronic Otitis Media,	14	22
Other Diseases of Ear (defective hearing excluded),	18	17
Blepharitis,	38	37
Acute Conjunctivitis,	71	56
Other Diseases of Eye (defective visions excluded),	93	90
IV.—Diseases of the Skin.		
Acne,	35	19
Boils,	52	63
Dermatitis,	78	98

* Special inspection.

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	1911	1912
Eczema,	163	212
Erythema,	41	91
Herpes,	371	247
Impetigo Contagiosa,	879	902
Pediculosis,	553	555
Scabies,	140	139
Tinea,	100	100
Other Affections,	420	341
V.—Miscellaneous.		
Abscesses and Ulcers,	197	169
Contusions and Injuries,	305	393
Cardiac Diseases,	2	7
Fever,	29	36
Gastric and Intestinal,	62	91
Malnutrition,	27	29
Pulmonary Disease,	8	13
Tubercular Lymph Nodes,	15	27
Other diseases not classified,	633	628
Summary.		
Specific and Infectious Diseases,	533	659
Oral and Respiratory Diseases,	6,140	1,223
Diseases of the Ear,	53	57
Diseases of the Eye,	202	183
Diseases of the Skin,	2,832	2,768
Miscellaneous Diseases,	645	765
Unclassified,	633	628
Vaccinations,	928	1,414
No disease found,	583	726
Number of first examinations,	7,866	8,964
Number of re-examinations,	3,654	4,131
Total number of examinations,	11,520	13,095
Total number sent home,	312	457

LIST OF MEDICAL INSPECTORS OF SCHOOLS.

Dr. R. S. Benner, Howard Street and William Street.

Dr. W. H. Chapin, Central High, Technical High, State Street Grammar, School Street, and East Union Street.

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Dr. M. W. Harrington, I. O. Primary and Grammar, Sixteen Acres, and Five Mile Pond.
Dr. J. P. Hillard, Kensington Avenue, White Street, and Boston Road.
Dr. W. A. Hosley, Sumner Avenue, Forest Park, and Vocational.
Dr. G. T. Lamarche, St. Joseph, St. Aloysius, I. O., St. Matthews, I. O., Immaculate Conception, I. O.
Dr. L. J. McCarthy, Charles Street, Glenwood, Brightwood, Armory Street.
Dr. R. B. Ober, Buckingham, Tapley, and Homer Street.
Dr. T. F. Rearden, Sacred Heart, St. Michael, Holy Family, Holy Name.
Dr. H. Ritter, Carew Street, Jefferson Avenue, and Hooker.
Dr. A. G. Rice, Worthington Street, Chestnut Street, and Lincoln.
Dr. E. T. Smith, South Main Street and Central Street.
Dr. C. E. Street, Strickland, Oak Street, Alden Street, and Eastern Avenue.

STABLES.

Sixty-eight licenses were granted during the year and twenty-eight applicants given leave to withdraw. All occupants or owners of stables must obtain a license from the Health Department, and it is a wise precaution for those intending to build a stable to secure a license before obtaining a building permit from the Building Commissioner, as permission to occupy can only be granted by the Board of Health. The granting of stable licenses is oftentimes a perplexing problem; and with the growth of the city, restrictions and refusals will be made more carefully, especially in the congested portions of the city. Owners of small lots must not expect a license will be granted when the location desired is in near proximity to neighboring dwelling houses, and those thus located which are now occupied must comply with all regulations. A more careful and frequent inspection of stables will be made during the coming year. Frequent removal of manure, the use of disinfectant, whitewashing, screening of all openings, with tight-covered receptacles for manure, will be insisted

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upon. An observance of these requirements is necessary, owing to the recent knowledge that the stable fly may be the bearer of the virus of poliomyelitis.

MILK AND MILK INSPECTION.

The work of the department in its efforts towards improving the milk supply of the city is showing good results in various directions, some of which may be briefly mentioned. No dip tanks are used by shopkeepers in the city. Bottled milk has taken its place and the consumer can procure any quantity desired in that form. Many lunch rooms and restaurants are serving milk in individual bottles to their customers. The sale of bottled milk is increasing rapidly for family use, for it is becoming well known that bottled milk is of better average quality than loose milk, and with less liability for contamination if bottled under proper conditions. In this connection it should be said that the dealers are providing better facilities for handling milk and that it would be difficult to find anywhere more up to date milk plants than are being built and installed in this city. The conditions under which milk is produced are also improving. Every dairy sending milk to Springfield is amply provided with ice so that a low temperature, which is of prime importance, can be quickly secured and permanently maintained. Twenty-seven new milk houses have been built during the year, and with those built in previous years a large majority of the 658 dairies sending milk to Springfield now have proper facilities for the cooling and storing of milk whilst awaiting transportation. Twelve new dairy barns have been erected during the year, all of modern construction. The frequent inspection service has brought about much improvement in the handling of milk by the producer. Milk utensils have improved, essential details in the matter of cleanliness have been pointed out, and the importance of scrupulous care of the cleanliness of cows and stables has made its appeal

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to the producer through the use of the score card. It has been interesting to observe the increased interest which has taken place in the use of the score card since its introduction. The producer now realizes that the score card is the criterion by which sanitary milk production is judged, and the price which he is able to obtain is governed in an increasing degree by the records of the score card, which indicates the method and equipment used in producing milk.

The enactment of a statute establishing a maximum bacterial count for all milk sold in the State would be a legislative move in the right direction, and it is believed would accomplish more towards improving the sanitary qualities of milk than the continual agitation over the control of the milk supply by the passage of a variety of bills which only tend to cause dissatisfaction and discord among the different interests engaged in the milk business. It is also believed that frequent inspection of dairies under local control without interference is an equally important measure, and no substitute producing as good results can easily be made. During the past year a number of producers have exhibited milk at the different State and National dairy shows. The showing made by their product has compared most favorably with that of other high grade dairies in the United States and Canada, and is worthy of special mention. At the Massachusetts Dairy Show, held at Amherst, there were thirteen dairies supplying Springfield with milk represented in the market milk class. Of this number nine received State diplomas for their excellence. One of these secured the highest score in the market milk class at the show and won the sweepstake prize awarded to the highest scoring milk at the Massachusetts Dairy Show in all classes. In connection with this show mention must be made in appreciation of the public spirit manifested by the Springfield Board of Trade, Charles Hall, Quimby & Co., and others in offering prizes to the highest scoring milk at the show from

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dairies sending their milk into Springfield. At the International Dairy Show held at Milwaukee, Wis., milk from six dairies supplying this city was entered in competition and four were awarded diplomas. The Health Department of the city was presented with a diploma of merit for the excellence of the collective exhibit from the six dairies entered. The entry, as a collective exhibit, secured third place for market milk in International competition, with an average score of 91.5. At the National Dairy Show held at Chicago, Ill., seven entries in the market milk class brought to Springfield two more diplomas, and two bronze medals. Diplomas at the National, International, and Massachusetts Dairy shows are issued to entries securing 90% perfect or over, and are very highly prized by those dairymen successful in securing them. In this connection it is interesting to know that the average score of all entries from this city, including those market milk entries which were not high enough to secure a score of 90% and a diploma, was 90.7%. This general average as a collective exhibit would place it in the diploma class. These annual competitions are worthy enterprises and afford the wide-awake milk producer an opportunity to compare his product with that of other modern dairymen throughout the country. The criticism which the entry receives is impartial and points out the different ways in which the entry is faulty, and if taken advantage of tends to enlighten each exhibitor as to those things which go to make a cleaner and better milk.

The temperature at which milk is held plays so important a part in its keeping qualities that the following laboratory tests were made as to the length of time which ordinary market milk would remain sweet under varying temperatures. Two quarts were purchased from different dealers.

The milk was about twenty-seven hours old at time of purchase. A record was made of the bacterial count and

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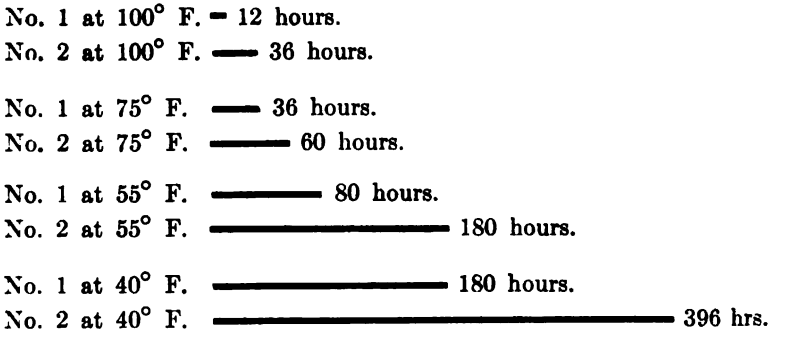
acidity of each sample of milk. No. 1 had a bacterial count of 280,000 colonies per cubic centimeter, No. 2 had a bacterial count of 16,400 colonies per cubic centimeter, which indicated immediate cooling after milking and subsequent careful handling. Each bottle of milk was then divided into four samples and one sample from each bottle was maintained at the following temperatures until it developed a faint trace of acidity, when it was eliminated from further experiment. (Temperatures at which the samples were maintained 100° F., 75° F., 55° F., 40° F.) The milk from each bottle was thoroughly mixed every twelve hours and a sample taken for bacterial count and acidity. The diagram shows the comparative length of time the samples of the two grades of milk remained sweet, and affords a striking illustration of the necessity of keeping milk at low temperature during the entire process of handling until it is consumed.

DIAGRAM SHOWING BY LINES THE COMPARATIVE LENGTH OF TIME DIFFERENT PARTS OF SAMPLES 1 AND 2 HELD AT 100° F., 75° F., 55° F., AND 40° F. REMAINED SWEET.


No. 1 at 100° F. — 12 hours.
No. 2 at 100° F. — 36 hours.
No. 1 at 75° F. — 36 hours.
No. 2 at 75° F. — 60 hours.
No. 1 at 55° F. — 80 hours.
No. 2 at 55° F. — 180 hours.
No. 1 at 40° F. — 180 hours.
No. 2 at 40° F. — 396 hrs.

Another test was made as to the increase of bacteria in the same milk from the time it was produced until the time it reached the consumer. Eighteen samples were taken at the dairies from ten quart cans in the milk tanks, and bacterial

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counts were made. After reaching the milk tanks of the dealer, a period of some fourteen hours, and allowing an hour and one half for re-cooling, samples were taken and bacterial count again made. Eighteen quart bottles of this milk were delivered at a given place by the dealer and exposed to outdoor temperature until about seven o'clock the following morning, when it was placed in the ice box and bacterial count made. In other words, the milk was followed from the time it was produced until the time it was placed in the ice box of the consumer. It will be noticed that the increase of bacteria is about six times more between the dealer and the consumer than between the milk tank of the farmer and that of the dealer.

Dairy No.	Temp. at Farm.	Count.	Temp. at Milk Dealer.	Count.	Temp. Consumer.	Count.
1	42	6,200	44	40,000	58	130,000
2	50	27,000	44	70,000	58	120,000
3	56	24,600	44	180,000	58	800,000
4	50	1,100	44	5,200	58	10,000
5	48	9,200	44	40,000	58	80,000
6	44	3,600	44	28,000	58	50,000
7	48	8,000	44	20,000	58	110,000
8	46	15,600	44	24,000	58	70,000
9	44	3,800	44	30,000	58	60,000
10	50	9,400	44	28,600	58	210,000
11	46	100,000	44	130,000	58	240,000
12	50	3,400	44	17,000	58	120,000
13	70	70,000(?)	44	45,600	58	180,000
14	40	5,900	44	31,000	58	140,000
15	42	9,800	44	42,000	58	80,000
16	44	18,000	44	30,000	58	800,000
17	44	10,000	44	20,000	58	80,000
18	48	43,200	44	170,000	58	3,200,000
—	—	———	—	———	—	———
Average	46.8	20,400	44	52,800	58	360,000

The following table shows the bacterial count of milk coming from the same dealers for three years, taken from the

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milk tanks shortly after arriving in Springfield. The consistent lowering of the bacterial count illustrates the general improvement which is being made in the average market milk in Springfield.

	1910		1911		1912	
Dairy No.	Temp.	Count.	Temp.	Count.	Temp.	Count.
1	64	70,000	46	10,000	44	31,000
2	64	20,000	46	370,000	44	40,000
3	64	320,000	46	400,000	44	30,000
4	64	50,000	46	10,000	44	30,000
5	64	460,000	46	140,000	44	20,000
6	64	130,000	46	27,000	44	28,500
7	64	110,000	46	60,000	44	170,000
8	64	10,000	46	50,000	44	45,000
9	64	400,000	46	250,000	44	24,000
10	64	160,000	46	10,000	44	28,000
11	64	2,000,000	46	40,000	44	18,000
12	64	6,000,000	46	460,000	44	42,000
13	64	40,000	46	30,000	44	130,000
14	64	1,200,000	46	10,000	44	20,000
15	56	80,000	46	10,000	44	5,000
16	56	330,000	46	40,000	44	17,000
17	56	70,000	46	40,000	44	40,000
18	56	20,000	46	140,000	44	70,000
19	56	60,000	46	50,000	Discontinued sending	
20	56	10,000	46	460,000	Discontinued sending	
Average	62	577,000	46	130,350	44	46,600

During the months of June, July, and August the usual summer work of bacterial examination for market milk was carried on, and 405 samples were taken from the dealers' wagons on the streets during this work. The media used was Standard Agar, American Public Health Association. Period of incubation forty-eight hours at 37° F.

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	1912	Percentage.	1911	Percentage.
Number of samples with 10,000 and under	128	31.6	109	24.7
Number of samples between 10,000 and 20,000	41	10.1	41	9.3
Number of samples between 20,000 and 50,000	70	17.3	82	18.6
Number of samples between 50,000 and 100,000	50	12.4	58	13.1
Number of samples between 100,000 and 200,000	35	8.6	53	12.0
Number of samples between 200,000 and 500,000	28	6.9	57	12.9
Number of samples with a count above 500,000	53	13.1	42	9.4
Number of samples with not more than 10,000	128	31.6	109	24.7
Number of samples with not more than 100,000	289	71.4	290	65.3
Number of samples with not more than 500,000	352	87.0	400	90.6

SUMMARY OF WORK PERFORMED IN THE DAIRY DIVISION.

Estimated number of quarts sold daily in Springfield,	60,000
Estimated number of quarts sold daily in city from nearby dairies,	59,000
Estimated number of quarts sold in city from New York state dairies,	1,000
Number of licenses issued for sale of milk,	578
Number of licenses and registrations issued for sale of oleomargarine,	36
Number of nearby dairies sending milk to Springfield,	633
Number of New York dairies sending milk to Springfield,	25
Number of dairy milk houses built during 1912,	27
Number of dairy barns built during 1912,	12
Number of inspections made of dairies,	1,078
Number of inspections made of stores and restaurants,	975

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Number of inspections made of milk wagons and rooms,	770
Number of inspections (total),	2,823
Number of milk samples collected from trains,	137
Number of milk samples collected from stores,	301
Number of milk samples collected from wagons,	1,292
Number of milk samples brought to laboratory,	897
Number of samples analyzed (total),	2,627
Number of samples found above standards (solids, 12.15%. fats, 3.35%),	1,984
Number of samples found below standard,	643
Number of samples low in solids and fats,	324
Number of samples low in solids,	260
Number of samples low in fat only,	59
Number of samples of ice cream analyzed,	14
Number of samples of condensed milk analyzed,	11
Number of samples of skimmed milk analyzed,	13
Number of samples of prepared milk analyzed,	3
Number of milk samples plated for bacterial examination,	1,046
Number of classified bacterial counts made,	405
Number of microscopic examinations of sediment,	1,128
Number of refractions for presence of added water,	243
Number of samples containing added water,	140
Number of prosecutions for selling watered milk,	4
Number of convictions,	4
Number of samples having bad flavor,	9
Number of samples containing manure,	4
Number of slimy milk samples received,	14
Number from which organism was isolated,	14
Number of dairies at which infection was located,	1
Number of samples showing udder infection,	3
Number of samples containing dirt,	19
Number of samples received containing preservative,	3
Number of bitter milk samples received and examined,	1
Number of bloody milk samples examined,	3
Number of human milk samples examined,	4
Number of samples showing skimming,	3
Number of oleomargarine samples examined,	14
Number of butter samples examined,	5
Number of laboratory calls for certified milk,	35
Number of calls for baby milk,	211
Number of personal calls at laboratory for milk information,	1,407

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VINEGAR.

Number of inspections of vinegar in stores,	502
Number of vinegar samples examined,	117
Number of vinegar samples found above standard (solids, 1.8%; acetic acid, 4.50%),	93
Number of vinegar samples found below standard,	24

INSPECTION OF MEATS, PROVISIONS, AND SLAUGHTERING.

The work of the Inspector during the year is tabulated as follows:—

MARKET INSPECTION.

Cold storage houses,	36
Wholesale meat houses,	161
Wholesale fruit houses,	49
Retail meat markets,	2,234
Retail grocery markets,	2,810
Retail fish markets,	814
Retail fruit markets,	2,261
Meat carts,	79
Total,	8,444

The markets are kept as a rule in a good sanitary condition, and the proprietors are anxious to do all in their power to conform with the meat inspection laws.

In the course of the year the following list, given in pounds, was condemned:—

MEATS.		POULTRY.		
Beef,	487	Chicken,	113	
Pork,	779			
Lamb,	151	FRUIT.		
Veal,	877	Bananas,	12	
Liver,	122	Grape Fruit,	6	
Kidney,	29	Figs,	3	
Bacon,	2	Apricots,	3	
		Peaches,	3	crates.

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MEAT PRODUCTS.		VEGETABLES.	
Sausage,	6	Beets,	10
Frankforts,	59	Potatoes,	½ car.
Bologna,	28		
Hamburg,	16	CHEESE.	
Head-cheese,	6	Cheese,	250

Eighteen complaints to the Board of Health office were investigated with the following results:—

1 box celery, frozen.
1 box cranberries, frozen.
5 boxes cheese, bad.
2 pounds Hamburg, bad.
¾ car potatoes, bad.
1 dozen cantaloupe, bad.
3⅓ crates peaches, bad.

The other eleven cases on examination proved unnecessary.

On inspection of meats shipped into the city by express companies the following amounts were condemned:—

Beef, 55 pounds, tainted.
Veal, 686 pounds, spoiled in shipping.
Veal, 115 pounds (three carcasses), under weight.
Veal (one carcass), under age.
Pork, 215 pounds (one carcass), tuberculosis.
Bologna, 20 pounds, spoiled in shipping.
Frankforts, 12 pounds, spoiled in shipping.
Smoked beef, 40 pounds, spoiled in shipping.

The pork which was condemned and destroyed for being tubercular was stamped by a country inspector, who had overlooked it. The suggestion is made that the selectmen of towns surrounding Springfield be notified to warn their inspectors of the importance of examining and stamping meats that are intended for sale in this city.

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SLAUGHTERING INSPECTION.

The following examination of carcasses killed in the city limits has been made:—

Veal, native, 32.
Veal, foreign, 356.
Beef, native, 1.
Lamb, foreign, 6.
Hogs, native, 170.

Three carcasses and 9 heads of native hogs were condemned for tuberculosis.

Eight carcasses of foreign veal for maggots.

Three carcasses of foreign veal for under weight.

One carcass of foreign veal for under age.

Respectfully submitted,

THOMAS F. REARDEN, M.D.,
EDGAR H. GUILD, M.D.,
PHILIP V. ERARD,

Board of Health.

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BOARD OF ALDERMEN, January 27, 1913.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, January 27, 1913.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, January 28, 1913.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., January 28, 1913.

Approved.

JOHN A. DENISON, *Mayor.*

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BUILDING DEPARTMENT.

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THIRD ANNUAL REPORT

OF THE

BUILDING DEPARTMENT.

CITY OF SPRINGFIELD, December 30, 1912.

To the Honorable, the City Council of the City of Springfield.

GENTLEMEN:—In compliance with the requirements of the Building Ordinance—Part 1, Section 1—a record of the business of the Building Department is herewith submitted, beginning January 1, and ending December 31, 1912.

The year 1912 has shown a remarkable increase in the building activities of Springfield. A new high record has been established, as the amount of building exceeds that of last year by 29%—and amounts to a total of more than six and one-quarter million dollars.

One thing which will probably attract attention is the small number of buildings erected by the city. Last year, permits were issued to the city for the erection of public buildings to cost approximately $700,000, while during the past year the cost of buildings erected by the city amounts to less than $25,000. Omitting these figures from the records of the years to which they relate, the result shows, in the actual growth of the city for this year, a gain over last year of more than 40%.

This is encouraging in view of the fact that the quality of the work in general is much better than existing work of the same class.

The Building Ordinance—which was before the City

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Council a year ago—was finally approved to take effect May 1, 1912. The new ordinance is an improvement over the earlier one, and is a long step in the line of progress. Amendments can now be made from time to time to bring the requirements and prohibitions up to that standard which our sober sense tells us is necessary for the protection of life and the prevention of fire.

With the passage of the new ordinance, the City Council, acting under Chapter 262, Acts of the Legislature, 1911, placed the "inspection and supervision of wiring and gas piping within any building or structure or relating thereto" under the supervision and control of the Building Department.

To properly handle this part of the work two inspectors of wiring and one inspector of gas piping have been appointed.

A large amount of electric wiring and gas fitting is being installed by amateurs and unskilled workmen. This class of work requires a good deal of attention and instruction from this department, and calls for repeated inspections that would otherwise be unnecessary. As may be expected, many serious defects are found, especially in the wiring, in these installations, and notices of these defects have been given verbally or in writing to the owner or to the person doing the work, and the defects have been remedied.

Owing to the large amount of new electrical work and alterations executed during the year, old electrical installations throughout the city have not received the attention which they demand. They will, however, be reinspected at the earliest opportunity.

The wiring and connections of all electric signs erected since May 1, 1912, have been inspected, and certificates of approval issued. Sixteen (16) electric signs have been inspected for the makers.

Six hundred and sixty-four (664) certificates have been issued to the United Electric Light Company for service,

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each of these permits being for the installation of one or more meters. The largest was for an apartment house which required twenty-nine meters.

ESTIMATES OF SAFE FLOOR LOADS IN WAREHOUSES, ETC.

In compliance with Part VI, Section 51, of the Building Ordinance, nine floors of warehouses have been surveyed, and proper notices giving the safe loads per square foot have been posted as required by law.

ELEVATORS.

Through the fault of no person, the official inspection of the hundreds of elevators now in use in this city is inadequate to insure their safety. An ordinance should be enacted by the City Council, requiring all elevators to be given a thorough inspection periodically. It is probable that such an ordinance could be added to the Building Ordinance at the present time without in any way conflicting with the provisions of Section 9, Chapter 349, of the Acts of the Legislature of the year 1910.

During the present year the construction work and safety devices of fourteen new elevators have been inspected and approved. Eight special examinations of elevators have been made.

INSPECTION OF HOTELS AND LODGING HOUSES.

As required by law (Acts of 1908, Chapter 487), the Building Department, during the month of May last, inspected forty-nine (49) hotels and lodging houses, containing a total of two thousand five hundred and ninety-three (2,593) rooms, and a report stating the condition of each room (above the first story), as to means of escape in case of fire, etc., was sent to

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the Chief of the Massachusetts District Police. A duplicate of this report is on file in this department.

BOARD OF APPEAL.

Nine applications for building permits have been refused. One applicant was aggrieved by the decision of the Building Commissioner and appealed to the Board of Appeal. The Board, after a view and a hearing, affirmed the decision of the Commissioner. A complete record of this case is on file in the Building Department.

A copy of the report of the doings of the Board of Appeal is submitted herewith.

THE TABLES.

Following are tables giving a complete record of the building operations, inspections, estimated cost of new buildings, alterations, etc., from January 1 to December 31, 1912.

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BUILDING PERMITS GRANTED.

From Jan. 1 to Dec. 31, 1912.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
Additions,	12	15	40	51	38	30	30	24	28	34	19	17	338
Alterations,	12	27	17	38	40	22	36	22	19	21	15	12	281
Business buildings,					1			1	3		1		6
Churches,				1	1	1							3
Factories,			2		1	1	3	1		2	3		13
Garages,	2	6	8	32	21	16	21	9	17	9	13	4	158
Houses—three family,	1	1	6	7	6	8	9	16	15	6	3	6	84
Houses—two family,	11	11	13	28	31	24	13	14	15	19	15	26	220
Houses—one family,	1	2	7	18	22	13	17	14	14	9	4	4	125
Stables,	1		4	6	4	4	3	1	4	4	4	2	37
Stores,	1	1	2	2	3	4	3	2	1		1		20
Storehouses,	2	2	2	13	5	4	2	10	6	5	6		57
Stores and tenements,		1	2		3			1	5	1	3		16
Tenements,	3	5	10	2	4	3	10		2	3	1	2	45
Theaters,								2	1	1			4
Miscellaneous,	4	2	5	6	12	16	2	10	8	8	4	5	82
Totals,	50	73	118	204	192	146	149	127	138	122	92	78	1,489

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ESTIMATED COST OF NEW BUILDINGS.

From Jan. 1 to Dec. 31, 1912.

WARD.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
1	$89,550	$21,000	$91,500	$52,605	$188,550	$203,990	$116,125	$99,050	$44,625	$94,750	$52,200	$16,810	$1,070,755
2	17,500	34,000	90,500	1,630	46,100	81,100	55,000	47,900	1,200		41,200	15,400	431,530
3	14,000	3,000		25,700	44,000	32,100		83,000	581,290	26,000	98,000		907,090
4		45,000	64,200	58,500	8,600	42,050	75,000	490	900	37,000	1,150	2,600	335,490
5	5,000		2,300	5,900	16,325	34,050	33,100	390	1,605	200	6,550	2,700	108,120
6		16,550	78,300	13,775		9,000	34,100	6,050	9,700	83,500	33,400	18,000	302,375
7	57,500	35,300	64,225	228,130	143,415	54,510	65,775	75,440	107,890	59,850	71,825	98,800	1,057,660
8	200	30,075	250,520	63,750	172,675	128,935	182,865	68,920	192,100	66,475	68,999	68,900	1,294,414
Totals	$183,750	$184,925	$641,545	$444,990	$619,665	$585,735	$561,965	$381,240	$939,310	$367,775	$373,324	$223,210	$5,507,434

NOTE:—In addition to the above,—"Verbal Permits" have been given (and recorded) for the erection of 209 buildings costing less than $25.00 each, and amounting—in the aggregate—to $4,170.00.

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ESTIMATED COST OF ADDITIONS AND ALTERATIONS.

From Jan. 1 to Dec. 31, 1912.

WARD.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
1	$625	$4,775	$4,750	$7,660	$3,825	$3,725	$5,235	$7,565	$1,200	$1,350	$4,800	$2,950	$48,460
2	2,400	800	14,950	14,150	1,875	1,755	18,175	100	1,250	1,475	25,400	3,775	86,105
3	4,080	23,450	24,250	31,725	10,250	5,925	16,550	32,450	44,550	39,225	2,650		235,105
4	260	19,775	2,972	3,150	7,533	8,050	7,350	2,705	8,000	3,375	1,850	550	65,570
5	1,800	4,100	2,350	51,305	3,470	1,525	9,220	1,050	7,075	675	880	2,100	85,550
6	3,000	13,100	700	1,600	890	590	4,800	1,400	4,105	9,810	4,580	1,800	45,875
7	600	1,875	5,985	6,650	1,975	4,215	45,320	5,750	7,900	3,125	1,390	5,705	90,490
8	1,400	4,200	2,010	37,220	48,860	2,495	5,310	6,350	3,700	8,185	3,050	5,125	127,905
Totals	$14,165	$72,075	$57,967	$153,460	$78,678	$28,280	$111,460	$57,370	$77,780	$67,220	$44,600	$22,005	$785,060

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VIOLATIONS OBSERVED AND CORRECTED.

Building without permit,	49
Dangerous buildings,	4
Dangerous chimneys,	25
Defective construction,	47
Defective heaters and smokepipes,	31
Flue-linings omitted,	7
No shields over heaters,	38
Omission of fire-stops,	52
Woodwork touching chimney,	15
Miscellaneous,	7
Total,	275

CLASSIFICATION OF BUILDINGS

	NUMBER.		COST.	
	Wood.	Brick.	Wood.	Brick.
Additions and Alterations,	485	134	$523,505	$261,555
Business Buildings,		6		681,000
Churches,		3		152,000
Factories,	1	12	4,400	702,500
Garages,	140	18	42,190	78,075
Houses—three family,	82	2	369,800	11,000
Houses—two family,	219	1	1,028,300	20,000
Houses—one family,	119	6	393,600	57,000
Stables,	33	4	8,415	3,175
Stores,	11	10	6,900	45,000
Storehouses,	45	11	19,005	23,590
Stores and tenements,	3	13	11,450	386,090
Tenements,	19	26	102,300	621,000
Theaters,		4		85,500
Miscellaneous,	54	28	278,640	376,504
Totals,	1,211	278	$2,788,505	$3,503,989

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BUILDING OPERATIONS—BY WARDS.

	WARDS.								
	1	2	3	4	5	6	7	8	Totals.
Additions,	57	29	36	34	41	21	59	61	338
Alterations,	33	26	62	26	31	23	40	40	281
Business buildings,	1		5						6
Churches,	1				1		1		3
Factories,	3	1	1			2	1	5	13
Garages,	21	2	1	5	13	3	70	43	158
Houses—three family,	38		1		2		20	23	84
Houses—two family,	28		1	1	3		126	61	220
Houses—one family,	16				5		37	67	125
Stables,	13	3				1	2	18	37
Stores,	3	4	2	1	2	3	4	2	21
Storehouses,	16	7	3	2	5	2	7	14	56
Stores and tenements,	5	4	1			1		5	16
Tenements,	10	9		9		5	4	8	45
Theaters,	1		1			1		1	4
Miscellaneous,	18	5	7	3	4	4	9	32	82
Totals,	264	90	122	81	107	66	380	379	1,489

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INSPECTIONS BY THE BUILDING INSPECTORS.

Table showing number of inspections each month, and for what purpose.

	New Buildings.	Alterations. Additions.	Special.	Fires.	Totals.
January,	305	81	18	4	408
February,	208	93	30	10	341
March,	228	107	21	1	357
April,	255	98	16	2	371
May,	291	88	44	3	426
June,	334	69	18	2	423
July,	307	90	13	1	411
August,	261	88	9	1	359
September,	322	83	22		427
October,	318	101	27	1	447
November,	282	84	15		381
December,	287	41	11		339
Totals,	3,398	1,023	244	25	4,690

NUMBER OF STEAM BOILERS INSTALLED.

From Jan. 1 to Dec. 31, 1912.

	WARDS.								
	1	2	3	4	5	6	7	8	Totals.
January,		2	2	1		1	7	4	17
February,	4						23	9	36
March,			1				12	2	15
April,	4		2				7	7	20
May,	4			1	1		37	13	56
June,	5	1			8	1	17	10	42
July,	1			2	3		19	5	30
August,	4	1	1	1			8	20	35
September,	10		1	3	2		19	5	40
October,	8	2	4	5	4	1	13	13	50
November,	4	5	1	1	2	1	7	10	31
December,			2		3		14	5	24
Totals,	44	11	14	14	23	4	183	103	396

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NUMBER OF HEATING FURNACES INSTALLED.

From Jan. 1 to Dec. 31, 1912.

	WARDS.								
	1	2	3	4	5	6	7	8	Totals.
January,	21	2		2	7		12	8	52
February,		5	2				12	16	35
March,	6						7	12	25
April,	3			1	1	2	5	13	25
May,	3						9	5	17
June,	6				2		2	7	17
July,	7				3		24	29	63
August,	20			1			10	11	42
September,	1		1				1	3	6
October,	10	3		2	12		24	19	70
November,	5				2		5	5	17
December,					2	1	9	7	19
Totals,	82	10	3	6	29	3	120	135	388

NOTE: – Permits have been granted for the erection of two bake ovens.

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ELECTRICAL INSPECTIONS.

Table showing number of inspections made from May 1 to Dec. 31, 1912.

INSPECTIONS.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
New installations,	159	256	264	276	247	275	219	186	1,882
Old installations,	5	8	7	8	8	18	11	9	74
Additions and alterations,	49	93	84	113	100	98	99	78	714
Totals,	213	357	355	397	355	391	329	273	2,670

Table showing number of defects discovered and corrected from May 1 to Dec. 31, 1912.

DEFECTIVE INSTALLATIONS.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
New installations,	36	107	82	88	97	105	84	61	660
Old installations,	3	5	4	8	6	17	10	7	60
Additions and alterations,	12	30	32	42	27	34	34	24	235
Totals.	51	142	118	138	130	156	128	92	955

NOTE:—While at the factory the wiring and construction work of sixteen electric signs have been inspected and approved.

No records of electrical installations or inspections of work done prior to May 1, 1912, are available.

GAS FITTING.

Table showing number of Permits, Inspections, and Violations from May 1 to Dec. 31, 1912.

	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
Permits granted,	77	77	66	62	68	92	49	45	535
Inspections made,	151	278	404	394	515	646	451	418	3,257
Defects detected,	22	30	55	12	45	54	30	22	270

NOTE:—No authorized inspections of gasfitting were made before May 1, 1912.

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PLUMBING.

Activities in this part of our work have been increased in proportion to the growth of the city, and during the year five thousand four hundred ninety-three (5,493) inspections have been made.

The special inspections (of old work) which were started last year have been extended during the past year, and two hundred forty (240) systems of plumbing have been re-examined and improvements made where necessary to remedy defective conditions.

In this field of our endeavors, we have very little amateur work to contend with. All masters and journeymen perform their work under a license issued by the State, to the applicant, after he has passed a satisfactory examination.

During the year, four persons have been prosecuted by this department for performing plumbing work without a license. In three cases a fine was paid,—the other one was dismissed.

On the next page are tables showing the number of plumbing permits, inspections, violations, etc., also the number and kind of fixtures installed from January 1 to December 31, 1912.

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PLUMBING.

Table showing number of Permits, Inspections, and Violations—1912.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
Permits for work in new buildings,	38	24	37	24	69	61	45	57	49	57	41	34	536
Permits for work in old buildings,	33	39	58	91	83	58	79	72	46	58	50	44	711
Regular inspections,	363	316	306	475	527	409	429	562	458	479	343	380	5,047
Special investigations,	120	102	18	23	24	20	33	30	38	23	4	11	446
Violations,	10	6	5	10	17	3	10	8	17	10	11	14	121

Table showing number of Fixtures installed during 1912.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
Water closets,	115	119	197	100	290	307	208	231	269	282	248	128	2,494
Lavatories,	97	113	213	202	236	251	270	196	288	201	248	119	2,434
Baths,	77	90	148	111	218	233	131	179	197	145	139	83	1,751
Laundry trays,	76	65	129	98	204	207	97	156	157	122	125	74	1,510
Sinks,	84	89	153	128	238	225	121	170	184	162	162	99	1,815
Urinals,	2		2	3				5	2			6	24
Totals,	451	476	842	642	1,186	1,223	831	937	1,097	912	922	509	10,028

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IN CONCLUSION.

I desire to thank His Honor, the Mayor, for the confidence which he has reposed in this department,—the Law Department for its wise and honest counsel, and the City Government for its painstaking and timely action in enacting the new Building Ordinance. I also wish to extend to the officers and men of the Police and Fire Departments my hearty appreciation of their friendly and valuable assistance.

Respectfully,

FRED W. LUMIS,

Building Commissioner.

BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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REPORT OF

BOARD OF APPEAL.

SPRINGFIELD, MASS., December 16, 1912.

Honorable Mayor and City Council, City.

DEAR SIRS:—In accordance with Section 9, Part 1, of the Building Ordinance for the City of Springfield, we herewith beg leave to submit the annual report of the Board of Appeal.

The Board has been called upon in one case during the current year, that of appeal of Barney Finkelhoff from the decision of the Building Commissioner, relative to the moving of a frame building located on premises at 32 Bond street.

Your Board, after visiting premises and later giving a hearing to the petitioner, unanimously sustained the decision of the Building Commissioner, prohibiting the moving of the building.

Your Board have no recommendations to make concerning revision of the existing ordinance.

Yours respectfully,

G. C. GARDNER, *Chairman*,
THOMAS O'BRIEN,
JAMES F. WALLS.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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Municipal Building Commission.

Sixth Annual Report.

SPRINGFIELD, MASS., December 19, 1912.

To His Honor, the Mayor, and City Council of Springfield.

GENTLEMEN: The Municipal Building Commission begs leave to submit its sixth annual report. This report briefly covers the record of the past twelve months. There have been twenty regular meetings of the Commission during the year, and a large number of less important meetings at other times for inspection of the work and to consider various minor questions.

The work was more or less interrupted during January, February and March, although on many fine days in the earlier quarter of the year the steel work and setting of stone on the Office Building were continued, and concrete floors were installed.

About April 1, 1912, all work was actively resumed, and from that time pushed along with as great rapidity as possible.

On May 14, the main cornice and frieze course of the rear wall on the Office Building fell, carrying with it three masons, all of whom were badly injured. The flying material also injured an electrician who was passing below at the time of the accident. Although every means at hand was used to speedily care for the injured men, one of them died within a few days. Investigation of the reason of the accident was very carefully made, and as near as could be ascertained a number of different causes were contributory to it. The sad loss of the life of Mr. John F. Haggerty in this unfortunate accident,

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and the injury to the other workmen, are most deeply regretted by your Commission.

On May 22 the steel work had reached the roof, and the great roof trusses on the Office Building were being erected, and by July 18 the fourth floor was completed. By the middle of August the roof of the Office Building was done, and the copper roofing was immediately installed. Work on the gypsum block partitions followed along closely after the floor work, and the rough plastering was started by the end of September, followed by the hard finish plaster, which at the present time is completed, except for the ornamental plastering in the aldermanic and council chambers and lobby adjoining, and the mayor's suite, in all of which places a much richer design in plaster is being used. The heating, plumbing, and electrical work in the Office Building was carried along with the construction of the floors and partitions.

We believe the work for the year on the Office Building has gone on as rapidly as is consistent with good construction.

Of the exterior work, the balustrade at the sidewalk line and the steps forming part of the terrace and approach to the Group, as well as the walks around the buildings and the court on Pynchon street, were finished early in the autumn, and the two large flagpoles on the front terrace have been set in place.

The following work has been done in the Auditorium during the year: ornamental plastering, slate stairs installed, tile and marble work, window trim and door casings and all wood finish, installation of bronze entrance doors and all hardware in the building, laying of finished floors, decorating and painting, and contracts let for the seats, lighting fixtures, and a clock and bell for the tower.

With the additional appropriation which has been granted by the City Government, the Commission will be able to secure and have installed a much better finish than was originally

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contemplated, or could have been done when the contracts for construction were let.

We fully believe that when the buildings are completed a close inspection of the work will satisfy every one, and the large additional outlay will be found to have been wisely provided.

Respectfully submitted,

GEORGE DWIGHT PRATT,
W. H. WESSON,
WILLIAM G. McKECHNIE,
EDWARD H. LATHROP,
HENRY LASKER,
J. FRANK DRAKE,
GEO. W. D. UPTON,

The Municipal Building Commission.

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BOARD OF ALDERMEN, December 23, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 23, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 24, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 24, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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CITY SOLICITOR.

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REPORT OF THE

CITY SOLICITOR.

City Council of City of Springfield.

GENTLEMEN:—I herewith respectfully submit a report of the business of the Law Department for the year 1912.

At the time of making the last report there were pending for and against the City sixty-two (62) cases, distributed as appears in said report. During the present year twenty-five (25) new cases have been instituted. Of these twenty were brought in the Superior Court for Hampden County, three in the County Commissioners' Court of Hampden County, one in the Superior Court of Barnstable County, and one in the Police Court of Springfield. During the year four cases have been disposed of by trial and others by settlement and dismissal, so that forty-seven (47) cases are now pending. Of these nineteen are general actions at law against the City, five have been brought by the City, and twenty-three are suits for damages for land or water takings in the development of the Little River water system. Of this latter seven or eight are duplicate cases, so that the actual number pending in this respect is fifteen or sixteen.

Very substantial and satisfactory progress has been made during the last two years in the disposition of the large number of cases against the City, resulting from the Little River takings. A considerable number of these cases were tried and a much larger number of cases disposed of by settlement.

A new case of importance is that of George B. Holbrook against the City, pending in the Superior Court for Barnstable

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County. This suit is brought to recover back taxes paid to the City during the present year by Mr. Holbrook, who contends that his residence has been changed to Barnstable.

Equity suit of the City against Harry Kelsey *et al.*, Trustees, brought in November of this year, offers an opportunity to ascertain what rights, if any, the public have secured by reason of user of Main street sidewalks.

With the completion of the Office Building of the Municipal Group an opportunity will be offered for the establishment of permanent quarters for the Law Department, which quarters should be properly fitted with the necessary books and other equipment, a stenographer-clerk installed and at least regular hours established for the officer or officers of the department.

I should say the most important matters to which the department is now related are the extensions of Dwight and Water streets, which have now reached the stage of legislative activity, a bill to enable the extension of the streets, financially and otherwise, being now on file, waiting the incoming session of the Legislature.

Respectfully submitted,

JAMES L. DOHERTY,

City Solicitor.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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PARK COMMISSIONERS.

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REPORT OF THE

BOARD OF PARK COMMISSIONERS

FOR THE YEAR ENDING NOVEMBER 30, 1912.

To His Honor, the Mayor, and the City Council of the City of Springfield, Massachusetts:—

As required by Chapter No. 28, Section No. 13, of the Revised Laws of Massachusetts, 1902, "of Public Parks, Playgrounds, and the Public Domain," the Board of Park Commissioners of the City of Springfield have the honor to submit their thirtieth (30th) annual report, for the year ending November 30, 1912.

The Board was organized for the year with Daniel J. Marsh president and Charles E. Ladd secretary, the members of the board being Daniel J. Marsh, Everett H. Barney, Nathan D. Bill, Theodor R. Geisel, and Andrew J. Flanagan.

RECEIPTS.

Appropriation, ...	$58,927 61	
Street Department, use of roller, .	84 00	
City Library Association, labor and material, ...	1,820 60	
		$60,832 21

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EXPENDITURES.

On account of small grounds:—		
Maintenance,	$3,047 36	
New work,	6,596 18	
		$9,643 54
On account of Forest Park:—		
Maintenance,	$34,181 44	
Roads, drives, etc.,	5,645 47	
Auto, tools, etc.,	5,203 48	
Buildings, structures, etc.,	3,467 92	
Grading, turfing, etc.,	1,934 80	
Transferred to Playground Account,	675 50	
		51,108 61
Unexpended balance,		80 06
		$60,832 21

DRINKING FOUNTAINS.

RECEIPTS.

Appropriation,	$550 00

EXPENDITURES.

Ice and care,	$326 16	
E. A. Gibbs & Co., ice,	113 58	
Sundry accounts,	110 26	
		$550 00

GERRISH PARK.

RECEIPTS.

Balance, 1911,	$839 44

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EXPENDITURES.

Care and maintenance,	$79 65	
J. W. Adams & Co., shrubs,	11 40	
		$91 05
Unexpended balance,		748 39
		$839 44

COURT SQUARE EXTENSION.

RECEIPTS.

Balance, 1911,	$42,566 12	
Interest,	1,043 61	
		$43,609 73

EXPENDITURES.

Labor,	$2,404 88	
Flynt Granite Co., curbing,	1,515 50	
Concrete mixer,	711 00	
Merrill & Sears, engineering,	353 00	
Griffin Bros., turf,	37 50	
N. Y., N. H. & H. Railroad Co., freight,	19 10	
Sundry accounts,	24 10	
		$5,065 08
Balance, November 30, 1912,		38,544 65
		$43,609 73

MENAGERIE BUILDING ACCOUNT.

RECEIPTS.

Balance from 1911,	$8,835 56

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EXPENDITURES.

E. T. Davis & Son, balance on contract,	$6,937 25	
W. A. Newton, balance on contract,	800 49	
Kirkham & Parlett, fees,	540 55	
J. J. Cotter, heater, etc.,	147 04	
Geo. Smith & Co., piping,	125 00	
S. M. King, iron work,	107 30	
Mass. Electric Co., wiring,	72 00	
Wyckoff & Lloyd Co., railing,	22 55	
O. C. Alderman, hardware,	22 54	
		$8,774 72
Balance,		60 84
		$8,835 56

PLAYGROUNDS.

RECEIPTS.

Appropriation,	$16,400 00	
Transfer,	675 50	
		$17,075 50

EXPENDITURES.

O. C. Alderman,	$221 64
Alling Rubber Co.,	675 00
Annable Lumber Co.,	238 85
C. C. Beebe,	80 00
Milton Bradley Co.,	74 16
Burgin Bros.,	209 25
E. S. Decker,	1,433 67
Eastern Fountain Co.,	50 00
Amount carried forward,	$2,982 57

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Amount brought forward,	$2,982 57	
Forbes & Wallace,	53 02	
H. L. Hawes,	87 36	
Hitchcock Supply Co.,	273 21	
Johnson's Bookstore,	128 93	
Knox Band,	85 00	
Narragansett Machine Co.,	540 86	
James F. Powers,	109 80	
T. Shea,	69 30	
Max Simcovitz,	489 75	
Tabaldi Bros.,	203 76	
T. M. Walker,	93 15	
Young Regalia Co.,	55 66	
		$5,172 37
Sundry accounts,		586 99
Salaries and wages:		
Supervision and instruction,		5,744 13
Labor,		5,504 41
Balance on hand,		67 60
		$17,075 50

As our city grows larger and more congested, the benefits derived from parks and playgrounds are becoming more appreciated, and each succeeding year finds a greater responsibility placed on this department to meet this increasing demand.

When Forest Park only a few years ago was opened to the public, it was thought that this beautiful tract of land with nearly 500 acres would be sufficient to meet the needs for many years to come. Yet to-day the provision for certain sports and games is inadequate. This is a problem that requires serious consideration.

When we recall that of the thirty-four (34) parcels which

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go to make up Forest Park, twenty-nine have been given and most of the remaining parks have been given wholly or in part, Springfield has much to be proud of in this record of her public-spirited citizens. Under these conditions it is not surprising that a recent suggestion that Stearns Square be sold met with such universal disapproval. To commercialize public gifts would establish a precedent that cannot be too severely condemned, and would be a most decided step backward.

It is with pleasure that we record two notable additions to our park system during the past year, the first being a large tract of land on the south side of Franklin street for a public playground. Being located as it is in one of the most thickly-settled sections of the city, where such a playground is so much needed, this gift comes at a most opportune time. This playground was given by Mr. Nathan D. Bill as a memorial to his mother, and is known as the Emily Denison Bill Playground.

An appropriation was made to grade this ground and equip it for use. It was opened to the public early in the summer. The pleasure and interest manifested by the boys and girls, as well as by the older people, is the strongest testimonial of their appreciation of this magnificent gift.

The second donation is a tract of land southwest of the Van Horn Reservoir Park, containing about three (3) acres, given by Miss Louise M. Stebbins and Miss Annie C. Stebbins as an addition to Van Horn Reservoir Park. This land was very much needed to carry out the proposed plans for the development of this park.

With a liberal appropriation for the next few years this is destined to become an exceedingly picturesque park, and in many respects will rival Forest Park. Considerable work has been done here the past year. About one mile of roadway has been laid out and surfaced with cinders. Four car-loads of rhododendrons and one car-load of mountain laurel have been set out, and a number of trees and shrubs planted. Owing

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to the destructive fires years ago many of the trees are dead and it will be necessary to do a liberal amount of tree-planting.

At Forest Park a good start has been made in filling the ravine at the main entrance drive, and it is hoped that by spring a part of this roadway will be raised to the desired height and opened for travel. This is one of the most needed improvements at the park, and will be greatly appreciated by all who have occasion to enter the park at this place.

The laying out of Trafton Road, which has been graded in preparation for hardening, has been the greatest factor in the opening up for development of the large tract of land just east of the park. Already streets and sidewalks have been laid, and several houses built, while many more are in process of construction. It will not be long before this entire section, which a year ago was unimproved land yielding but a small revenue to the city, will be all built up, making a desirable residential section and producing a substantial revenue to the city in increased taxes. Trafton Road should be hardened the coming season.

The Menagerie Building has been completed, and a number of gifts to the collection of birds and animals made. A pair of African lions, not yet arrived, has been presented by Stanford L. Haynes. An ostrich from William H. Dexter, and birds and smaller animals from E. S. Decker, O. C. Alderman, T. Shea, and others, have been received.

Court Square Extension has been graded, the inside thumb curbing set, and a cinder foundation for the walks put in. Owing to the lateness of the season before this work could be done, it was deemed best to wait until spring before building the walks.

PLAYGROUNDS.

The past year has been by far the most satisfactory one since playgrounds were introduced in Springfield. Thirteen well-equipped playgrounds and the swimming pool at Water-

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shops pond were opened to the public, each one under the supervision of one or more experienced instructors. In addition to the Emily Denison Bill Playground, two new playgrounds were established, one in the Brightwood section at the rear of the Brightwood school, and the other on Parker street at Indian Orchard, in the Polish district, the free use of this land being given by the Ludlow Manufacturing Associates. The attendance at all of the playgrounds has been very encouraging. Many of these grounds have been kept open till dark. By so doing we have been able to interest the older people, especially the men, who came to the playground after their work and in a short time were actually taking part in the games. When this can be accomplished to any appreciable degree, then is the playground doing its best work. At the close of the playground season a play festival in which children from each of the playgrounds took part was held at Forest Park. On the athletic field the girls gave exhibitions of folk dancing, marching, and drills, while the boys contested in the various sports. Much rivalry as well as loyalty was displayed by the contestants from the different playgrounds.

In the Menagerie Building a wonderful display of the work done by the boys and girls on the playgrounds during the summer was on exhibition. The exhibit included basket-weaving, chair-seating, crocheting, embroidery, and dress-making, and the making of many other useful articles. All of this goes to prove the wisdom of keeping the minds of the children occupied and interested during the vacation period.

THEO. R. GEISEL,
EVERETT H. BARNEY,
ANDREW J. FLANAGAN,
DANIEL J. MARSH,

Board of Park Commissioners.

CHARLES E. LADD, *Secretary.*

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

—

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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CITY FORESTER.

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COMMITTEE ON FORESTRY

Alderman HENRY LASKER, *Chairman*

Alderman EDW. S. GOLDTHWAITE, *Secretary*

Alderman JOHN G. MAXFIELD

WILLIAM F. GALE,

City Forester

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REPORT OF THE

COMMITTEE ON FORESTRY.

SPRINGFIELD, MASS., December 31, 1912.

To the Honorable, the Mayor, and City Council.

GENTLEMEN:—The fifteenth annual report of the Forestry Department, for the year ending November 30, 1912, is hereby respectfully submitted.

FINANCES.

The expenditures of the department are shown in the report of the City Forester hereto annexed.

THE TREES OF SPRINGFIELD.

The trees of Springfield are a very valuable attraction of our city, and are commented on most favorably by strangers as well as our citizens who contribute for their maintenance. We believe that this civic beauty can be further bettered by the city doing all planting, filling out gaps or bare places where trees do not exist. The Public Statutes now prohibit the planting of trees on public highways excepting by a permit from the officer in charge of trees, and at the same time place all the care in his hands and allow him to plant at public expense. Therefore, we recommend that, as fast as funds are available, the tree belts along streets where trees are lacking be filled

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out with suitable trees. Several requests have already been made for this work by citizens living on streets partly planted.

There is also great opportunity to further beautify our wider streets and avenues by planting besides the purely shade tree certain trees valuable for their beauty in flower. As for example, Sumner avenue should be filled out on the sides nearest the roadway with a large growing tree, such as the Celtis (Hackberry), and on the walk side of the parkings might be planted Double Flowering Japanese Cherry. When these trees are in flower, all at one time, the three miles of street with these two rows of trees in bloom will be a flower show in themselves.

Pecousic avenue has a parking of nine feet on either side. We hope to plant here, for the principal tree, the Celtis, with Cladrastis (Yellow Wood) between. The effect of such plantings, the introducing of flowering trees, is most charming: well worth the little extra expense.

We recommend that the suburban roads be planted as fast as possible,—beginning this year with Boston road, using Rock Maple, Walnut, Hemlock, and Horse-Chestnut.

Shade trees in cities have much to contend with, sidewalks and paved streets not being to their liking, preventing, as they do, moisture and air at the roots. There has been more rainfall this year than in some seasons, so that trees in general have suffered less for want of water. Food is often lacking, so wherever possible we have supplied fertilizers best suited for wood building.

FORESTRY GROUNDS.

There is more to be done in order to complete the planting of our grounds at the Forestry Building, and we hope to see it finished this coming year. We would also like to see the line between the County property and that of the Forestry Department straightened, much to the improvement of each property.

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The Committee desires to extend its thanks to His Honor, the Mayor, and the City Council, for the courtesies shown it during the year.

HENRY LASKER,
EDWARD S. GOLDTHWAITE,
JOHN G. MAXFIELD,

Committee on Forestry.

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City Forester's Report.

SPRINGFIELD, MASS., December 31, 1912.

To the Committee on Forestry.

GENTLEMEN: I hereby submit my report for the municipal year closing November 30, 1912.

RESOURCES.

Appropriation,		$19,575 00

EXPENDITURES—BILLS APPROVED.

Forestry, other than for insect control:—		
Labor,	$7,283 93	
Tools (new),	217 06	
Tools (repairs),	369 15	
Fertilizers and mending trees,	618 17	
Office expenses,	206 12	
Building account,	555 11	
Grounds, shrubs, trees, and soil,	775 01	
Barn account,	535 32	
Trees set and labor,	158 75	
Miscellaneous,	58 91	
		$10,777 53
For the control of injurious insects:—		
Labor,	$2,932 41	
Special Brown-tail moth work,	225 00	
Spraying machinery (new),	1,662 88	
Spraying tools (repairs),	206 67	
Insecticides,	1,043 17	
		6,070 13
Street signs and fixtures,		1,718 89
Smoke abatement,		673 05
		$19,239 60

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To the street sign account should be added $129.65 charged to horse keeping, storage, and office expenses, making a total of $1,848.54, total cost of street sign work during the year.

RECAPITULATED.

Cost of caring for street trees, other than insect work:—		
Labor,	$7,283 93	
Repairs on tools,	369 15	
Fertilizers and mending trees,	618 17	
Depreciation in tools,	570 99	
From building, barn, and office account,	388 95	
		$9,231 13
Cost of protecting trees from injurious insects:—		
Labor,	$3,157 41	
Repairs on tools,	206 67	
Depreciation in value of tools,	387 33	
From building, barn, and office account,	259 30	
Insecticides used,	1,043 17	
		$5,053 88

SUMMARY OF INVENTORY.

Forestry tools on hand November 30, 1911,	$2,095 98	
Bought during the year,	217 06	
	$2,313 04	
Less 25% for the year's depreciation,	578 26	
		$1,734 78
Machinery and tools for insect control,	$1,549 32	
Bought during the year,	1,662 88	
	$3,212 20	
Less 25% for the year's depreciation,	803 05	
		2,409 15
		$4,143 93

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Amount brought forward,.....		$4,143 93
Miscellaneous property:—		
Real estate, 107 Pecousic avenue,.....		4,500 00
Buildings situated thereon,.....		14,250 00
Office furniture at 111 Bridge street,.....	$73 00	
Wall case in Water Department building,.	22 50	
	$95 50	
Less 10% for the year's use,.....	9 50	
		86 00
Hay and grain at Pecousic avenue,.....		170 00
Barn fixtures,.....		18 00
Gray mare,.....		150 00
Street signs, fixtures, and tools,.....		300 00
Nursery stock at foot of Magnolia terrace,.		200 00
Total net value of property,.....		$23,817 93

INSECT SUPPRESSION.

The purchase of a ten horse-power spraying outfit has enabled us to do the spraying of our elms at less expense than heretofore. Although the labor has cost considerably less, it has cost more for insecticide, but the net cost has been so reduced that the investment has proved wise. On one street we sprayed 118 elms in four hours with this new machine, which was less than half the time required by our other apparatus.

Our insecticides this year were very satisfactory and the spraying for the elm leaf beetle a success. During the winter a portion of the elms should be sprayed for the elm bark scale, and the maples for the woolly aphis. Other insects on public trees are not in sufficient numbers to be troublesome.

The city was thoroughly canvassed during the latter part of the winter for the brown-tail moth. Quite a number of nests were found, as the winter before, and destroyed. This work will be repeated again this winter with the hope of pre-

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venting the pest from becoming a nuisance. No gypsy moths have been found.

BROKEN TREES.

Several very high winds gave us an unusual number of broken trees. These have been bolted or put in the best repair possible. Considerable has also been done in repairing old wounds, and cleaning and filling cavities.

SUSPICIOUS CHARACTERS.

Any one finding insects upon their trees or plants which they have reason to suspect are injurious should send them to the City Forester so that, if they are destructive, action may be taken immediately for their extermination.

There are very few chestnut trees within the limits of the highway, yet many of them are infested with fungous disease which is not entirely under control, and it may be a question whether they can be saved.

GAS DESTROYING TREES.

There is an unusual number of trees affected by illuminating gas escaping in the ground. More than one hundred trees show signs of gas injury, seventy of which are dead. Means should be taken to compel the Gas Company to use better methods to detect leaks and an annual inspection of all mains should be made early every spring. Their pipes are so near the surface that they are often affected by action of the frost. It would be well in the future, when permits are granted for new mains, to insist that they be laid below frost line and that a city inspector oversee all new work, that proper care is taken in making joints in order to prevent leaks.

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STREET SIGNS.

This division of our work has progressed. We have placed forty permanent iron posts, about one hundred wooden posts, and nearly one thousand name plates—a rather larger number than usual on account of last year's orders not being delivered until after the new year commenced.

SMOKE ABATEMENT.

The City Forester has charge of smoke abatement. During the past year about nine hundred observations have been made. Several prosecutions that were made last winter resulted in better conditions. The questions of law relative to locomotives which were submitted to the supreme court have not been reported on as yet.

Respectfully submitted,

WILLIAM F. GALE,

City Forester.

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BOARD OF ALDERMEN, January 4, 1913.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, January 4, 1913.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, January 4, 1913.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., January 4, 1913.

Approved.

EDWARD H. LATHROP, *Mayor.*

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LICENSE COMMISSIONERS.

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REPORT OF THE

BOARD OF LICENSE COMMISSIONERS.

To His Honor, the Mayor, and the City Council of the City of Springfield:—

The Board of License Commissioners beg to submit their annual report for 1912.

For the purpose of comparison as to the number of licenses of each class granted, and the receipts from them during the last thirty years, we insert from the Municipal Register the following figures:—

YEAR.	CLASS.							Total.	Receipts.
	1st.	2d.	4th.	5th.	6th.	7th.	Club.		
1883	40	7	39	10	....	....	....	96	$25,900 00
1884	....	....	....	....	27	....	....	27	27 00
1885	66	11	73	8	....	....	....	158	46,225 00
1886	26	4	28	2	1	....	.. .	61	20,850 00
1887	...	....	....	....	....	....	....	....	.. ..
1888	60	6	40	4	26	....	2	138	48,526 00
1889	28	1	8	2	31	....	2	72	47,731 00
1890	26	....	9	2	27	....	1	65	51,227 00
1891	30	....	12	2	33	....	2	79	60,783 00
1892	38	....	4	2	32	....	2	78	63,832 00
1893	39	....	3	2	31	....	3	78	65,231 00
1894	39	....	3	2	30	....	4	78	65,530 00
1895	39	....	3	2	30	....	4	78	65,784 00
1896	44	....	4	2	36	....	4	90	76,237 00
1897	45	....	4	2	34	....	3	88	76,278 17
1898	44	....	5	2	35	....	3	89	77,134 00
1899	44	....	5	2	34	....	5	90	77,636 00
1900	44	....	5	2	34	....	5	90	84,535 00
1901	53	....	57	2	36	....	4	*100	100,709 00
1902	54	1	59	2	35	....	3	*100	102,987 00
1903	54	1	58	3	36	....	3	*101	102,236 00
1904	53	1	58	3	35	....	4	*101	102,186 00
1905	53	1	58	3	36	....	4	*98	102,186 00
1906	53	1	58	3	36	....	4	*102	100,391 00
1907	53	1	56	3	36	....	4	*102	122,988 00
1908	53	1	58	3	35	....	6	*104	123,438 00
1909	54	1	59	3	36	1	6	*106	125,390 00
1910	54	1	59	3	38	1	6	*106	125,392 00
1911	54	1	49	3	41	....	4	*127	145,793 00
1912	56	....	38	3	44	....	4	*130	143,448 00

*No. of Licensed Places.

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The Licenses granted to date of this report, to expire May 1, 1913, are as follows:—

COMMON VICTUALERS—FIRST CLASS.

To sell liquors of any kind to be drunk on the premises ($1,500 each).

Beach & Kane,	173 Chestnut street.
Blackmer, C. J., & Co.,	333 Water street.
Breglio, P. A., & Co.,	300 Worthington and 384 Dwight streets.
Bresnahan, James F.,	483 Main and 18 Market streets.
Burke, Thomas J., & Co.,	521 Main and 4 Stockbridge streets.
Cone, William H., & Co.,	11 Hampden street.
Coogan, John P., Co., Inc.,	12 Sanford and 34 Market streets.
Coogan & Quilty,	191 Chestnut street.
Coughlin, Thomas, & Co.,	116 State street.
Crowley, M. J., Liquor Co.,	485 State and 3 Walnut streets.
Curran, William J., & Co.,	15-19 Sanford and 25 Market streets.
Delaney, Bernard J., Co.,	603 Main street.
Donovan Brothers,	179 Main and 11 Ferry streets.
Duquette, A. H., & Co.,	552 Main street.
Guyott & Co.,	225 Main street.
Higgins, Joseph W., & Co.,	545-547 Main Street.
Hohenberger, H. S., & Co.,	3 Pynchon street.
Kelley, A., & Co.,	167 Bridge street.
Lange, Theodor, & Co.,	257 Bridge street.
Lennehan, J. J., & Co.,	215-217 Worthington street.
Lubold, H. E., & Co.,	11 Lyman street.
Mansion House,	510 Main street.
McGrath, Thomas, & Co.,	209 Chestnut and 131 Lyman streets.
Missett & Maloney,	50 Sanford and 26-30 Dwight streets.
Murphy, C. J., & Co.,	315 Worthington and 349 Dwight streets.
Murphy, William J., & Co.,	45 and 47 Market street.
O'Brien & Reagan,	121 Lyman street.
Phillips, C. W., & Co.,	64 Bridge and 71 Water streets.
Reidy, John A., & Co.,	199½ and 201 Main,and 2 Liberty streets.
Reilly & Toole,	71-73 Market street.
Roos, George J., & Co.,	69 Water street.
Scatis, D. W. C., Trustee of Estate of John T. Shaw,	Haynes Hotel, Main and Pynchon Streets.
Scully, J. F., & Co.,	660½ Main street.

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Sollace, George E.,	190 Main street.
Toomey & Cody Co.,	145 Main and 7 Congress streets.
Walsh, John J.,	23 Walnut street.
Walsh & McInerney,	3, 5, and 7 E. Court and 50 Market streets.
Welch & Collins,	191-193 Main street.
Winkler Brothers,	63 Bridge and 79 Water streets.
Young, William M.,	189 Main street.

Number of Common Victualers' First Class Licenses, 40.

WHOLESALERS—FOURTH CLASS (CLASS W).

To sell liquors of any kind not to be drunk on the premises ($2,000 each).

Barry, Garratt S.,	271 Bridge and 6-8 Barnes streets.
Coats, E. M., Co., Inc.,	5-11 Market street.
Flanaghan, Terrence, & Co.,	100 State street.
Glickman & Kushner,	41 Ferry street.
Henking, Gus C., & Co.,	119 Lyman street.
Jefferson & Deely,	192 Worthington street.
Ryan, S. A., & Co., Inc.,	183 Main street.
Rieutord, Charles E.,	146 Main and 18 Oak streets, Indian Orchard.
Tone, Phil, & Co.,	591 Main street.
Toomey & Cody Co.,	147-147½ Main street.
Curran, William J., & Co.,	21 Sandford street.
Young, William M.,	187 Main street.

Number of Fourth Class Licenses, Class W, 12.

FOURTH CLASS (CLASS R).

To sell liquors of any kind not to be drunk on the premises ($1,500 each).

Beach & Kane,	171A Chestnut street.
Breglio, P. A., & Co.,	386 and 388 Dwight street.
Delaney, Bernard J., Co.,	599 Main street.
Dillon, James, & Co.,	704 Main street.
McGrath, Thomas, & Co.,	207 Chestnut street.
Murphy, C. J., & Co.,	319 Worthington street.
Murphy, William J., & Co.,	17 E. Court street.

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Spaight, Daniel,	188 Main street.
Walsh, John J.,	19 Walnut street.

Number of Fourth Class Licenses, Class R, 9.

WHOLESALE DRUGGISTS—FOURTH CLASS.

To sell liquors of any kind (to drug trade only) not to be drunk on the premises ($600).

Brewer, H. & J., Co.,	404 Dwight and 67 and 73 Taylor streets.

Number of Wholesale Druggists' Fourth Class Licenses, 1.

BREWERS—FIFTH CLASS.

To sell malt liquors, cider and light wines, not to be drunk on the premises ($2,700 each).

Liberty Brewing Co.,	Corner Liberty and Charles streets.
Springfield Breweries Co.,	Fort, Water and Hampden streets.
Springfield Breweries Co.,	1273 State street.

Number of Fifth Class Licenses, 3.

INNHOLDERS—FIRST AND FOURTH CLASS.

To sell liquors of any kind ($2,250 each).

Buckley, E. L., & Co.,	256-268 Main and 2-20 Hampden streets.
Chapin, William H.,	Cor. Main and Railroad streets.
Edgar & Hartenstein,	222-224 Main street.
Gilmore Hotel Co.,	418-428 Main street.
Grise, Charles,	13 Oak street, Indian Orchard.
Guyer, A. G., & Co.,	92-96 State street, 12-14 Court House place, and 29 Elm street.
Hampden Hotel Co.,	134 Chestnut and 415 Bridge streets.
Hawkins, James L.,	267-269 Main street.
Henking, H. C., Co.,	15-23 Lyman street.
Heydt, John,	179 Main street, Indian Orchard.
Katz, Louis,	Cor. Main and Bliss streets.
Lerche's Hotel Co. (Erhardt F. Vogel),	93-95 State street.
Marsh, H. E., & Co.,	Cor. Main and Liberty streets.
McCarthy, John J., & Co.,	243-249 Main street.

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Sievers, D. H., & Co.,	Cor. Hillman and Barnes streets.
Worthy Hotel Co.,	303 Main and 169, 171 and 187 Worthington streets.

Number of Innholders' First and Fourth Class Licenses, 16.

DRUGGISTS—SIXTH CLASS.

To sell liquors of any kind for medicinal, mechanical, and chemical purposes only ($1.00).

Adams, Charles F.,	54 Walnut street.
Adams, Henry,	429 Main street.
Anderson, Bert P.,	232 Main street.
Barker, Irvin R.,	242 Main street.
Beauvais, Joseph H.,	570 Main street.
Bennett, Stanley B.,	85 Wilbraham road.
Blanc, Neil,	728 North street.
Chenette, Joseph E.,	164 Main street, Indian Orchard.
Clancy, Daniel M.,	152 Main street, Indian Orchard.
Coolbroth, F. J.,	360 Bay street.
Cunningham, A. W.,	272 Worthington street.
Curley, James E.,	296 Hancock street.
Dearborn, Harold W.,	1075 State street.
Delehanty, J. W.,	482 Mill street.
Dickinson, Homer F.,	298 Belmont avenue.
Dooley, Timothy J.,	267 Central Street.
Elsey, Harry P.,	593 Main street.
Erard, Philip V.,	469 Chestnut street.
Hapgood, Edwin O.,	463 Main street.
Hayn, Herman E.,	807 Main street.
Keefe, Daniel F.,	180 Hancock street.
Leighton, Percy A.,	21 White street.
Leonard, Edwin F.,	72 Main street.
Lerche, Albert E.,	325 Main street.
Longtin, Rosario E.,	245 Bay street.
McCarthy, Thomas F.,	512 Sumner avenue.
Merriam, William C. B.,	643 Main street.
Noble, William B.,	167 Chestnut street.
Page, Otto A. F.,	377-379 Main street.
Powers, George H.,	946 Worthington street.
Richards, Stanley A.,	188 State street.

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Ryan, Charles V.,	161 Main street.
Sadler, William L.,	530 and 532 Main street.
Sexton, Charles S.,	477 State street.
Simmers, Henry J.,	827 State street.
Smith, Fred H.,	372 Belmont avenue.
Smith, John D.,	271 Main street.
Stone, Frank A.,	410 Main street.
Sunter, Alexander E.,	438 Chestnut street.
Taylor, Albert W.,	326 North Main street.
Thompson, Clifford P.,	503 Main street.
Vezina, R. J.,	441 Armory street.
Welch, John H.,	554 Belmont avenue.
Wheeler, Fred N.,	802 State street.

Number of Sixth Class Licenses, 44.

CLUB.

To distribute and dispense intoxicating liquors to members ($300 each).

B. K. Bruce Club,	542 Main street.
Nayasset Club,	61-71 State street.
Springfield Lodge of Elks No. 61,	Chestnut and Worthington streets.
Springfield Turn Verein,	79-83 State street.

Number of Club Licenses, 4.

Number of First, Second, Fourth, and Fifth Class Licenses,	81
Number of Sixth Class Licenses,	45
Number of Club Licenses	4
Total	130

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There were 127 Special Sunday Licenses granted, at $5.00 each, for the sale of ice cream, confectionery, fruit and soda on the Lord's Day. Also 106 Common Victualers' and 12 Innholders' Licenses granted, at $5.00 each.

Meetings were held on December 7, 16, 18, 27; January 8, 20; February 3, 13; March 8, 9, 16, 23; April 2, 4, 10, 17' 20, 25, 29; May 3, 8, 15, 23, 29; June 12, 21; July 16; August 5, 6; September 12, 23, 30; October 31; November 18, 25.

On April 17 John R. Coogan surrendered his First Class Common Victualers' License, granted him for the current year to be exercised on the premises at No. 12 Sanford street and No. 34 Market street, and it was thereupon voted that the said license be canceled under the provision of Chapter 171, Section 1, of the Acts of 1902.

On April 17 a First Class Common Victualers' License was granted to John, James, and Henry Splaine, to be exercised on the premises at No. 12 Sanford street and No. 34 Market street, three rooms on first floor and basement beneath the same.

On August 5 Thomas McGrath surrendered his Fourth Class Liquor (Class R) License, granted to him for the current year to be exercised on the premises at No. 207 Chestnut street; it was thereupon voted that said license be canceled under the provision of Chapter 171, Section 1, of the Acts of 1902.

On August 5 a Fourth Class Liquor License was granted to William H. Klein and John G. Findeison, doing business as the Howard Company, to be exercised in two rooms on the first floor and basement beneath the same, at No. 207 Chestnut street.

On August 6 Thomas McGrath surrendered his First Class Common Victualers' License, granted to him for the current year to be exercised on the premises at No. 209 Chestnut street and No. 131 Lyman street; one room on the first floor

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and basement beneath the same, and it was thereupon voted that said license be canceled under the provision of Chapter 171, Section 1, of the Acts of 1902.

On August 6 a First Class Common Victualers' License was granted to Patrick F. Sullivan and James J. Hurley, to be exercised on the premises, one room and basement beneath the same, at No. 209 Chestnut street and No. 131 Lyman street.

On September 23 Coogan and Quilty surrendered their First Class Common Victualers' License, granted to them for the current year to be exercised on the premises at No. 191 Chestnut street, first floor and basement beneath the same, and it was thereupon voted that said license be canceled under the provision of Chapter 171, Section 1, of the Acts of 1902.

On September 23 a First Class Common Victualers' License was granted to Timothy H. Devine and Joseph A. Campagna, to be exercised on the premises at No. 191 Chestnut street, one room on the first floor and basement beneath the same.

On September 30 the firm of Glickman & Kushner were given a hearing before the Board; they had been convicted in the Police Court of violating the conditions of their license by selling liquor without having orders for same; the Board found them guilty and their license was suspended from October 5 to October 14.

On October 31 Louis Katz and Louis B. Katz were given a hearing before the Board, charged with a violation of the Sunday Law; they had been convicted, in the Police Court, of selling liquor to two officers of the reserve force, without requiring them to purchase food. The Board found them guilty of the charge, and ordered the suspension of their license from November 4 at 6 A. M. to December 2 at 6 A. M.

On October 31 J. H. Beauvais, a druggist doing business at No. 570 Main street, charged with selling liquor on the Lord's Day, without requiring a physician's prescription, was

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given a hearing; he had been convicted in the Police Court, on two charges, and the evidence before the Board showed that he and his clerk sold to officers of the reserve force liquor on Sunday, September 8, 15, and 22; a total of five sales. The Board revoked his license.

TRANSFERS.

June 21 the Sixth Class Druggists' License of Irwin R. Barker was transferred from No. 242 Main street to No. 32 Main street.

August 30 the Fourth Class (Class W) Liquor License of William J. Curran & Co. was transferred from No. 21 Sanford street to No. 17 Sanford street.

September 12 the First Class Common Victualers' License of William M. Young was transferred from No. 189 Main street to No. 145 Main street, first floor and basement beneath the same.

September 12 the Fourth Class Liquor License of William M. Young was transferred from No. 187 Main street to No. 147 Main street, one room on first floor and basement beneath the same.

November 18, the Sixth Class Druggists' License of Harold W. Dearborn was transferred from No. 1075 State street to No. 1081 State street.

November 25 the First Class Common Victualers' License of Theodor Lange & Co. was transferred from No. 257 Bridge street to No. 249 Bridge street, three rooms on the first floor and basement beneath the same.

November 18 W. H. Chapin, formerly proprietor of the Massasoit Hotel (now demolished) and holder of license granted on April 2, applied to the Board for permission to transfer the license from the building formerly located on the corner of Main street and Railroad row, to the building numbered 657, 659, 659½ Main street, corner of Morris street; after careful consideration the Board decided that the license

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had been abandoned, and the petitioner was given leave to withdraw.

It has been the custom of the Board to begin the financial year on June 1. Inasmuch as the finance department of the city begins on December 1, a part of the expense of two years had to be taken into consideration. After conferring with the Finance Committee and explaining the facts, it was decided that the Board would adopt the same time as the other departments and begin on December 1; although the balance sheet shows an increased expense it is less than last year by a small amount.

The expenses of the Board for the year are as follows:

Clerk hire,	$91 68
Stationery and postage,	30 00
Printing and advertising,	112 85
Rent,	350 00
Auto hire,	14 00
Salaries of Commissioners,	375 00
Total,	$973 53
Amount received for recording licenses,	385 00
Net expense of the Board,	$588 53

June 6 Hugh J. Donnelly was appointed a License Commissioner for six years by Mayor E. H. Lathrop, who also appointed John H. Clune chairman and secretary, in place of William M. Titus. As a matter of simple justice we desire to record the fact that Mr. Titus gave freely of his time and thought for the best interest of the city during his term of office.

Respectfully submitted,

JOHN H. CLUNE,
CHARLES P. CHASE,
HUGH J. DONNELLY,

Board of License Commissioners.

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BOARD OF ALDERMEN, December 23, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 23, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 24, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 24, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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LIGHTING STREETS.

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REPORT OF THE

COMMITTEE ON STREET LIGHTING.

CITY OF SPRINGFIELD, MASS., December 23, 1912.

To the City Council.

GENTLEMEN: We, the members of the Street Lighting Committee, herewith submit the report received by us from the Superintendent, W. J. Converse,—a most satisfactory report, we believe, and we are fully satisfied with the work accomplished this year.

The new lighting system on Court square is one of the biggest accomplishments of any street lighting committee, and we believe that the next step of importance should be to combine with the Street Railway Company and secure a pole that can be used for both light and a support for the trolley wires, and thus lessen the number of poles on Main street, which is so much to be desired. We submit this as something worthy of the incoming committee.

Respectfully submitted,

CHAS. B. HITCHCOCK,
FRANK E. STACY,
JULIAN R. ALBEE,
JOHN P. CANNON,
GEORGE W. STREETER,

Committee on Street Lighting.

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SUPERINTENDENT'S REPORT.

To the Committee on Street Lighting.

GENTLEMEN: The report of the Superintendent of Street Lighting for the year 1912 is herewith presented.

During the year the work of this department has greatly increased. Magnetite lamps have been placed on many of our streets. The public appreciates the improvement made by this type of lamp and I would recommend that some arrangement be made with the United Electric Light Company, whereby all the old General Electric inclosed lamps be changed to the Magnetite arcs. Trimming the trees on some of the streets has done much toward making the streets lighter, without extra lamps, and I hope that more of this work may be done the coming year.

Petitions for 108 new lights have been received, and 43 arc lights and 68 incandescents have been granted. Also 27 arc lights and 12 incandescents have been ordered without petitions.

Thirty-two five-light clusters, 340 watts per cluster, have been ordered around Court square. This is the first of this style of lighting for Springfield and, on a public square, will be a decided improvement over the old arc lights.

I would like to call attention to the improvement on Berkshire avenue, where new lights have been put in this year, and I would recommend that more be installed as this is a very important street.

I would also recommend the extension of lights on Boston road to Parker street, this being the main thoroughfare to Worcester and Boston.

The opening of the tract called East Springfield has made it

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necessary to extend the incandescent lights on St. James avenue from Carew street to Chicopee line, on Page boulevard from St. James avenue to Millett Brass Works, and the indications of growth in this section will call for still more lights in the near future.

There has been a scarcity of chestnut poles and we have used hard pine as a substitute. These, when well seasoned and treated with carbolineum or creosote, have proved very satisfactory.

The buildings in use by this department are inadequate, as the department has outgrown them. More suitable buildings must be provided soon to supply our needs.

An electric truck with electric derrick would greatly facilitate the work. Many times we are called on to move a lamp pole for street work. With such a truck and derrick, this could be accomplished in less time and with less men. Also the clerical work has so increased that it would be advisable to ask for a sufficient appropriation to insure a permanent clerk.

Attached to and made a part of this report will be found a financial statement for the year ending November 30, 1912:

Comparison of expenditures and inventories, 1897 to 1912, year by year;

Comparison of appropriations and receipts, 1897 to 1912;

Comparison of arc and series incandescent lights, 1898 to 1912;

List of new arc lights installed during 1912;

List of new series incandescent lights installed during 1912;

List of poles changed during 1912;

Detailed inventory of stock on hand, not in use, December 1, 1912, as well as detailed inventory of property in use, December 1, 1912.

Respectfully submitted,

W. J. CONVERSE,

Superintendent of Street Lighting.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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EXPENDITURES AND INVENTORIES PER YEAR.

	Expenditures.	Increase.	Inventory.	Increase.
1897	$52,150 96			
1898	55,822 61	$3,671 65	$14,195 47	
1899	58,868 87	3,046 26	15,396 20	$1,200 73
1900	61,167 76	2,298 89	14,967 38	*428 82
1901	65,483 03	4,315 27	17,483 80	2,516 42
1902	70,268 98	4,785 95	18,846 57	1,362 77
1903	74,082 69	3,813 71	21,828 24	2,981 67
1904	76,337 13	2,254 44	24,758 98	2,930 74
1905	78,668 21	2,331 08	27,737 67	2,978 69
1906	80,265 57	1,597 36	27,140 24	*597 43
1907	78,245 50	*2,020 27	26,639 76	*500 48
1908	86,243 84	7,998 34	28,715 28	2,075 52
1909	90,291 12	4,047 28	29,391 37	676 09
1910	96,908 49	6,617 37	31,415 41	2,024 04
1911	104,246 23	7,337 74	30,513 20	*902 21
1912	111,485 16	7,238 93	30,111 67	*401 53
		* Decrease.		* Decrease.

	Appropriations.	Increase.	Balance Unexpended.
1897	$53,003 10		$852 14
1898	57,077 50	$4,074 40	1,254 89
1899	60,452 60	3,375 10	1,538 73
1900	63,157 26	2,704 66	1,989 50
1901	66,242 16	3,084 90	759 13
1902	70,737 11	4,494 95	468 13
1903	74,194 11	3,457 00	111 42
1904	76,727 71	2,533 60	390 58
1905	79,348 55	2,620 84	680 34
1906	80,281 77	933 22	16 20
1907	78,280 96	*2,000 81	35 46
1908	86,255 71	7,974 75	11 87
1909	91,148 46	4,892 75	557 34
1910	97,866 36	6,717 90	957 87
1911	104,660 11	6,793 75	413 88
1912	111,950 00	7,289 89	464 84
			*Decrease.

1909—$300.00 transferred to Engineering Department.

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ARCS AND SERIES INCANDESCENT LIGHTS PER YEAR.

	ARC LIGHTS.		SERIES INCANDESCENT LIGHTS.	
	No. Installed.	No. Replaced by Series Lights.	No. Installed.	No. Replaced by Arc Lights.
1898	46		12	
1899	49		42	
1900	44			3
1901	49		3	3
1902	52		1	6
1903	34			2
1904	27		4	4
1905	42	4	20	2
1906	22	1	2	2
1907	35	1	11	
1908	22			
1909	43	5	71	
1910	85	5	70	3
1911	67	2	106	9
1912	61		83	

NEW ARC LIGHTS INSTALLED IN 1912.

Location.	Character.
Alderman street, corner Sorrento street,	Mastarm.
Armory street, corner Sterling street,	Mastarm.
Armory street, 500 feet east of Liberty street,	Mastarm.
Armory street, corner Albany street,	Top Light.
Ashley street, between No. 35 and No. 45,	Mastarm.
Ashley street, near No. 96,	Mastarm.
Atwater terrace, 300 feet from Springfield street,	Mastarm.
Atwater terrace, 700 feet from Springfield street,	Mastarm.
Bedford road, corner Rimmon avenue,	Top Light.
Benton street, opposite No. 116,	Mastarm.
Berkshire street, 500 feet west of Fiberloid street,	Mastarm.
Calhoun street, between No. 38 and No. 34,	Mastarm.
Cass street, opposite No. 31,	Mastarm.
Cliftwood street, at end,	Mastarm.
Dickinson street, corner Sachem street,	Mastarm.
Dickinson street, corner Euclid avenue,	Mastarm.
Dresden street, opposite No. 25,	Mastarm.

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Location.	Character.
Dresden street, between No. 47 and No. 49,	Mastarm.
Dwight street, between State and Sanford streets,	Gooseneck.
Dwight street, between Hillman street and Harrison avenue,	Gooseneck.
Dwight street, between Bridge and Worthington streets,	Gooseneck.
Ft. Pleasant avenue, opposite No. 73,	Mastarm.
Franklin street, first west of Cass street,	Mastarm.
Greenwich street, east line of No. 16,	Mastarm.
Howard street, first east of Water street,	Mastarm.
James street, between No. 25 and No. 31,	Mastarm.
Liberty street, opposite Home street,	Mastarm.
Linden street, 250 feet east of Chestnut street,	Mastarm.
Locust street, near Belmont avenue,	Mastarm.
Locust street, near Dickinson street,	Mastarm.
Lyman street, between No. 37 and No. 39,	Gooseneck.
Maple street, first north of Cross street,	Gooseneck.
Margaret street, west of Water street,	Mastarm.
Massachusetts avenue, corner Westford circle,	Mastarm.
Massachusetts avenue, at south end,	Mastarm.
North street, corner Cumberland street,	Mastarm.
North Main street, corner Merwin street,	Mastarm.
North Main street, between Grace street and Wason avenue,	Mastarm.
North Main street, first north of Wason avenue,	Mastarm.
Oxford street, between No. 46 and No. 52,	Mastarm.
Oxford street, 129 feet north of Riverview street,	Mastarm.
Pecousic boulevard, corner South street,	Mastarm.
Plainfield street, opposite Division street,	Mastarm.
Plainfield street, west end Railroad bridge,	Gooseneck.
Revere street, between No. 100 and No. 106,	Mastarm.
State street, east line of No. 131,	Gooseneck.
St. James avenue, opposite Street Railway station,	Mastarm.
Sumner avenue, corner Howes street,	Mastarm.
Sumner avenue, 300 feet east of Forest Park entrance,	Mastarm.
Taylor street, at No. 61,	Gooseneck.
Thomas street, between No. 31 and No. 33,	Mastarm.
Tracy street, opposite No. 21,	Mastarm.
Walnut street, northeast corner Gerrish Park,	Gooseneck.
Walnut street, opposite Queen street,	Gooseneck.
Wilbraham avenue, between No. 32 and No. 38,	Mastarm.

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Location.	Character.
Wilbraham avenue, between Beverly and King streets,	Mastarm.
Wilbraham road, at end of trolley line,	Mastarm.
Worcester street, I. O., between Oak and Pine streets,	Mastarm.
Worthington street, between No. 184 and No. 188,	Gooseneck.
Worthington street, between No. 217 and No. 219,	Gooseneck.
Worthington street, 350 feet east of Autumn street,	Mastarm.
Total number of arc lights in use November 30, 1912,	1,309

NEW SERIES INCANDESCENT LIGHTS INSTALLED IN 1912.

Location.	No. Lamps.	Candlepower.
Albemarle street,	4	60
Applewood place,	2	60
Bay street, beyond Edgewood street,	6	60
Belvidere avenue,	3	60
Bristol street,	2	60
Central street, in alley to Adams street,	1	60
Chapel street,	3	60
Chestnut street at dry bridge,	4	60
Claremont street,	2	60
Crestwood street,	3	60
Dunmoreland street,	3	60
Edgemont street,	3	60
Johnson street,	2	60
Langdon street,	3	60
Page boulevard,	11	60
Pearl street place,	2	60
Plumtree road,	10	60
Rochelle street,	2	60
Roseland street,	3	60
St. James avenue,	14	60
Total number of series incandescent lights in use November 30, 1912,		388

POLES CHANGED IN 1912.

Allen street, corner Oakland street.
Allen street, near White street.
Allen street, corner Randall avenue.
Allen street, between railroad and Plumtree road

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Amaron street, midway.
Armory street, corner Bevier street.
Bay street, corner Buckingham street.
Bay street, corner Bowles street.
Bay street, opposite Dawes street.
Belmont avenue, corner Crystal avenue.
Belmont avenue, corner Keith street.
Berkshire street, I. O., east of Oak street.
Birnie street, corner Sheldon street.
Birnie avenue, corner Douglas street.
Broad street, near Main street.
Carew street, near brick yard.
Carew street, 700 feet east of Prospect street.
Carew street, northeast corner Bartlett avenue.
Carew street, opposite Parkside avenue.
Carew street, opposite Newbury street.
Central street, corner Beech street.
Central street, 100 feet from Maple street.
Chestnut street, corner Franklin street.
Chestnut street, opposite Grosvenor street.
Chestnut street, opposite Bancroft street.
Clantoy street, corner Dupont place.
College street, midway State and Shattuck streets.
Colton street, corner Beacon street.
Dale street, opposite William street.
Dickinson street, corner Trenton street.
Dickinson street, opposite Orange street
Euclid avenue, near Belmont avenue.
Euclid avenue, near Dickinson street.
Farnsworth street, near Hamburg street.
Forest Park avenue, opposite Woodside terrace.
Franklin street, between Charles and Cass streets.
Garfield street, near Oakland street.
Grosvenor street, midway.
Hancock street, opposite Clark street.
Hancock street, between Central and Mill streets.
Hubbard avenue, opposite Willow street.
Knox street, corner Smith street.
Litchfield street, corner Fairfield street.
Main street, I. O., opposite Milton street.
Maplewood terrace, corner Riverview terrace.

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Massasoit street, corner Montmorenci street.
Myrtle street, I. O., corner Essex street.
Palmer avenue, near Warriner avenue.
Pecousic boulevard, corner South street.
Pecousic boulevard, between South street and South end bridge.
Pecousic boulevard, 300 feet south of South end bridge.
Sargeant street, near Main street.
Spring street, corner Lyman street.
Spruceland avenue, corner Magnolia terrace.
State street, corner Stebbins street.
State street, corner Hancock street.
State street, corner Mapledell street.
State street, corner Maynard street.
State street, corner Willard avenue.
Sumner avenue, corner Belmont avenue.
Union street, near railroad.
Walnut street, corner Charter avenue.
Walnut street, corner Hancock street.
Walnut street, corner Florence street.
Water street, corner Whitney avenue.
Water street, opposite Lombard street.
Wilbraham road, corner Eastern avenue.
Wilbraham road, corner Concord terrace.
Woodside terrace, midway.
Worcester street, I. O., corner Myrtle street.
Worthington Street, between Spring and Autumn streets.
York street, opposite Hanover street.

STOCK ON HAND, NOT IN USE, DECEMBER 1, 1912.

15 goosenecks	$131 25
3,434 feet mastarm cable,	68 68
1 derrick,	126 00
1 creosote kettle,	140 00
10 mastarms,	150 00
7,000 charts for recording meters,	34 09
148 poles, 25 feet,	999 00
11 chestnut poles, 30 feet,	110 00
128 poles, 28 feet,	1,248 00
33 hard pine tops,	175 75

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5 iron base poles,	$82 50
295 pole steps,	29 50
402 detachable pole sockets,	20 10
116 detachable pole steps,	32 48
Pulleys and ropes,	10 00
45 gross screws,	16 20
Mastarm repair parts,	198 00
50 old poles,	50 00
Ladders,	3 00
563 coach screws,	8 44
20 iron crossarms,	35 00
152 spreaders for mastarms,	38 00
6 tons coal,	37 08
Hay and oats,	18 30
Auto supplies,	20 00
1½ gross snaps,	12 90
19 gooseneck cut-outs,	57 00
1 barrel creosote,	6 00
2 barrels carbolineum,	78 40
Total,	$3,935 67

PROPERTY IN USE, DECEMBER 1, 1912.

172 iron poles, with goosenecks, complete,	$6,263 00
1,137 lamp poles,	6,007 00
1,058 mastarms,	11,783 00
3 harnesses,	10 00
1 concord wagon,	30 00
1 heavy business wagon,	85 00
1 light business wagon,	40 00
1 reach wagon,	20 00
1 pole truck,	15 00
1 business sleigh,	20 00
1 light sleigh,	8 00
Blankets, robes, etc.,	10 00
1 horse,	250 00
Storehouse and sheds,	500 00
18 recording ampere meters,	680 00
1 portable volt meter,	60 00

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1 portable ampere meter,	$45 00
Miscellaneous tools,	90 00
1 touring car,	180 00
Office furniture,	80 00
Total,	$26,176 00
Total stock, not in use, December 1, 1912	3,935 67
Total,	$30,111 67

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CITY OF SPRINGFIELD.

FORM OF CONTRACT BETWEEN CITY OF SPRINGFIELD, MASS., AND UNITED ELECTRIC LIGHT CO., FOR LIGHTING STREETS, MADE IN 1909.

This agreement, made this twenty-second day of March, 1909, by and between the City of Springfield, a municipal corporation established in the county of Hampden, hereinafter called the party of the first part, and the United Electric Light Company, a corporation established by law in the city of Springfield, in said county, and hereinafter called the party of the second part, witnesseth:—

The said party of the second part, in consideration of the agreement of the party of the first part hereinafter contained, and of other valuable considerations by it received of the party of the first part, hereby covenants and agrees with the party of the first part as follows: That it will furnish and operate for, and during the period of FIVE years, beginning on the first day of May, A. D. 1909, arc electric lamps to the number of not less than 1,000, known as "350 watt, 1,200 candle power lamps"; and series incandescent lamps to the number of not less than seventy-five, known as "60 candle power lamps"; the party of the second part to supply each incandescent lamp with sufficient current to maintain a lamp of said rated candle power and to furnish and maintain all wire-supporting poles, electrical apparatus, fixtures and accessories thereto, required for the safe and efficient operation of said lamps, in such parts of the city as lie within a radius of four miles from a point where the southerly line of Court Street intersects the westerly line of Main Street; and lamps that are or may be located in that part of the city known as Indian Orchard, which shall be within a radius of three miles of the power house of the party of the second part at Indian Orchard, and at such particular locations as the City Council may direct; these lamps to be suspended or supported upon posts, as the Committee on Lighting Streets may determine; and that during said period it will provide, clean and care for said lamps, repair and paint all the apparatus and fixtures referred to above, furnished and owned by said party of the

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second part, and paint the lamp-supporting poles and mast arms owned by the party of the first part, in strict conformity with the following conditions, which are made a part of this agreement.

The party of the first part hereby agrees to furnish and keep in repair all arc lamp-supporting poles and mast arms, excepting painting the lamp-supporting poles and mast arms properly equipped and placed in position to receive the apparatus and appurtenances thereto of the party of the second part; and it also shall give to the party of the second part, authority to erect and maintain all necessary poles for supporting its wires on all streets where lamps are established by the party of the first part for lighting the streets. Whenever the party of the first part shall change any top light, so-called, to a mast arm light, the party of the second part shall furnish the necessary additional wiring without expense to the party of the first part. For the 60 candle power series incandescent lamps, the party of the second part will provide and maintain, including painting and all repairs, octagonal wooden poles and suitable iron fixtures. In any section where a more ornamental pole and fixture is desired, the same shall be furnished by the party of the first part.

CONDITIONS.

Light Giving Power.

The light giving power of the lamps shall be determined by the electrical energy expended at the lamp; it being understood that not less than three hundred and fifty watts is to be furnished each arc lamp.

Hours of Lighting.

The lamps are to be operated continuously each and every night during the continuance of this agreement. They are to be started thirty minutes after sunset, and kept in operation until thirty minutes before sunrise. The time of sunset and sunrise, for the purpose of this contract, shall be determined by the Old Farmer's Almanac.

Carbons.

These shall be of the best quality for and best adapted to street lighting, and of the size adapted to the current used, and must burn uniformly and give a clear and steady light.

Globes.

These shall be of clear glass, unless otherwise ordered by said com-

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mittee, and shall be free from lettering; of best quality and proper shape, to avoid casting rings or streaks of light and shadow, and shall be kept clean to the satisfaction of said committee. Any globes that may become broken shall be replaced by sound ones each day before starting the lights; if not, said light shall be considered as out, and the outage shall be deducted. If the said committee shall request any of the globes changed, such change shall be made at once.

Location of Lamps.

The position, manner of hanging, height above pavements, and number of lamps for any locality, as well as their location, shall be determined by the party of the first part, acting by said committee.

Apparatus.

The lamps, wires, and other conductors shall be thoroughly insulated and so placed and cared for as not to expose the public or property to danger, or to unnecessarily interfere with the work of the fire department in case of fire.

In case the Committee on Lighting Streets shall decide that any of the wire-supporting poles, or apparatus connected therewith, require repairing, owing to an unsightly or dangerous condition, the same shall be repaired at once, and within twenty-four hours of notice from said committee; and if not so repaired, said committee may make the repairs, and the expense thereof may be deducted from any amount due the party of the second part.

The members of the police department may report daily to the city the hours when lamps are started and the hours when they are extinguished, and may report the length of time that any lamps fail to burn.

Inspection.

The party of the second part agrees at its own expense to maintain an efficient system of patrol for inspecting the lamps during the hours when they are in use, so that any lamp which fails to burn properly shall be promptly reported and put in order, or immediately replaced. For this inspection a sufficient number of men shall be employed to admit of an examination of each lamp at least twice each night, and the said party of the second part shall instruct its inspectors to so inspect each lamp each night, and shall use all reasonable effort to secure such inspection.

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It is further understood and agreed that the superintendent of street lighting of the party of the first part is authorized to make such tests to determine the electrical current supplied under this contract as he may deem necessary; and that the said superintendent, or such persons as may be authorized by the committee, shall, for the purpose of making tests, have full access at all times to all lamps, poles, conduits, apparatus, or machinery used by the said company on the streets or at their stations for furnishing lights for the city; and that the party of the second part shall furnish space at their stations for such recording meters as the committee shall provide.

It is further understood and agreed that should any two tests, made as herein provided, show in any one month a smaller amount of electrical energy in any circuit in the service of said city than is called for by this contract, then the said city may deduct from any sum due the said company, such proportional part of the sum due said company for lights furnished during the current month, as the deficiency found by such tests shall bear to the standard of electrical energy herein established.

Indemnity Clause.

The party of the second part shall indemnify and save harmless the party of the first part from any and all liability, loss, cost, or damage that it may suffer by reason of any infringement suits, and from any and all liability for injury to persons or property (and from all damages of any sort) resulting from defective insulation; or from defective poles, fixtures or apparatus belonging to the party of the second part. It is, also, to save said party of the first part harmless from liability to any party resulting from the carelessness or negligence of the employees of the party of the second part in operating the same, provided any accident does not result from any defect in any pole or fixtures connected therewith owned by the party of the first part.

Allowances to be Made.

In case the light-giving power of any of the lamps shall be less than called for herein, payment shall only be made for the actual current furnished; the amount to be paid to be based pro rata upon the amount called for if the current were equal to that required hereby; but this shall not imply a right to continue to furnish lights under this contract at a reduced current. In case any of the lamps are not lighted as early as required by this contract, or are extinguished prior to the time established for the extinguishment thereof, or in case any of them shall be

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extinguished during the time they ought to burn, then payment shall not be made for the time such lamps are not lighted, when they should be, and a pro rata allowance shall be made therefor. Any amount that shall be due the party of the first part under the provisions of this clause of the contract, shall be deducted out of any money that may be payable to the party of the second part.

Additional Lights.

In case any lights in addition to those herein provided for shall be required by the city within said districts, the same shall be furnished and maintained on the same terms and conditions as those herein provided.

The numbers of lamps on any one circuit shall not exceed the number which the generator for such circuit is rated to run, and such generators shall deliver the proper current for all lamps.

Terms of Payment.

In consideration of the agreement of the party of the second part hereinbefore contained, the party of first part agrees that it will, subject to any and all rights it has or may have under any of the terms and conditions of said agreement, pay said party of the second part for all lamps rated 1,200 candle power that are or shall be located along conduits and fed by wires therefrom, *Eighty-three Dollars* per lamp per year; for all other lamps rated 1,200 candle power, *Seventy-one and* $\frac{50}{100}$ *Dollars* per lamp per year; and for all lamps rated as 60 candle power series incandescent electric lamps, *Fifteen Dollars* per lamp per year. It is agreed that whenever an arc lamp fed by overhead wires shall be changed to one fed from a conduit, the increased price resulting therefrom shall not take effect until the first day of May following. It is hereby expressly agreed that the foregoing prices to be paid for incandescent lamps are based upon the understanding that the incandescent lamps referred to shall be located on existing street arc lighting circuits; and if not so located and the party of the second part constructs conduits therefor, then for all incandescent lamps located on and fed from said last named conduits, the party of the second part shall receive *Twenty Dollars* each for said last named incandescent lamps. Payment is to be made monthly for the service of the preceding months on vouchers duly approved under the ordinances of the city; all payments to be made at the Treasurer's office; that in case, on the expiration of this contract, a new contract is not entered into with the party of the second part to light the streets of the city, any company to whom such new contract shall be

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awarded shall purchase of the party of the second part, if the party of the second part desires to sell, the supporting poles, wires, conduits, and electrical apparatus and accessories thereto, owned by it and used in carrying out the terms hereof; said purchase to be at a price to be determined by three appraisers; one to be appointed by the party of the second part; one by the purchaser, and the third by the two so chosen; and in case the city shall engage in the business of lighting its streets, on the expiration of this contract, said city shall take said property on the same terms.

It is agreed by the party of the first part that the party of the second part shall not be required to furnish incandescent lamps hereunder, except on existing arc street lighting circuits and extensions thereof, and that such lamps shall be so located as not to require more than 300 feet of wires leading from a conduit, or over 300 feet of pole line material for each lamp.

In witness whereof, the parties hereto, by their duly authorized representatives, have executed this agreement in duplicate the day and year first above written.

Attest: E. A. NEWELL, *City Clerk.*

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CITY OF SPRINGFIELD.

FORM OF CONTRACT BETWEEN CITY OF SPRINGFIELD, MASS., AND UNITED ELECTRIC LIGHT CO., FOR LIGHTING CITY BUILDINGS, MADE IN 1909.

This agreement, made this twenty-ninth day of March, 1909, by and between the City of Springfield, a municipal corporation established in the county of Hampden, hereinafter called the party of the first part, and the United Electric Light Company, a corporation established by law in the city of Springfield, in said county, and hereinafter called the party of the second part, witnesseth:—

(1) The said party of the second part, in consideration of the agreement of the party of the first part, hereinafter contained, and of other valuable considerations by it received of the party of the first part, hereby covenants and agrees, subject to Clause 6 hereof, with the party of the first part, as follows:—

That it will furnish electricity, during the period of five years, beginning on the first day of May, 1909, for lighting and power purposes in the several buildings now owned and to be erected by the City of Springfield, on the following basis:—

(2) The said party of the second part will supply electricity to be used for lighting city buildings at any point within the city limits at a rate of *Seven* (7) *Cents* per kilowatt hour, to be delivered at and measured by meter. The original supply of carbon lamps of standard candle power and all renewals of same to be supplied by the party of the second part.

(3) The said party of the second part will supply electricity to be used for power purposes in city buildings at any point within the city limits, at a rate of *Three* (3) *Cents* per kilowatt hour, to be delivered at and measured by meter. All apparatus operating on this class of service to be supplied and maintained by the party of the first part.

(4) The party of the first part shall give to the party of the second part authority to erect and maintain all necessary poles for supporting wires, which will be needed to transmit current to the buildings where service is demanded.

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(5) The party of the second part shall not be required by the party of the first part to install conduits and cables or erect poles and wires to supply service, unless the income per year to be received from the party of the first part by the party of the second part shall equal at least ten per cent. of the money expended for such connection.

(6) In case the said United Electric Light Company shall, because of shortage of water, or unavoidable accident to machinery, or other accident of any kind, find itself unable to meet any of the demands made upon it for electricity for any purpose for which it may at any time be supplying the same, under the terms of this contract, so that it is necessary to temporarily discontinue the supply of electricity to be furnished hereunder, it may so discontinue the same without liability.

In witness whereof, the parties hereto, by their duly authorized representatives, have executed this agreement in duplicate the day and year first above written.

Attest: E. A. NEWELL, *City Clerk.*

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CITY CLERK'S REPORT.

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CITY CLERK'S REPORT.

CITY CLERK'S OFFICE, MUNICIPAL BUILDING.

January 6, 1913.

To the City Council of the City of Springfield:—

I herewith submit the following report for the year ending November 30, 1912.

The amount of fees received by me for official services, from December 1, 1911, to December 1, 1912, is as follows, said sum having been paid by me to the City Treasurer:—

For marriage certificates	$917 00
Notice of marriage	1 00
Copies of record	152 85

For recording and indexing the following papers:—

Mortgages on personal property	$418 10
Discharges of mortgages	64 50
Assignments of mortgages	11 45
Voluntary assignments	29 00
Attachments of personal property	1 00
Recording assignments	25 15
Bills of sale	19 30
Conditional sales	65
Notices of foreclosure	8 45
Married women's certificates	13 00
Discharge of married women's certificates	25
Leases	1 90
Assignment of lease	50
Recording and indexing dog licenses	500 80
Witness fee	1 20

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Examining record	$ 50
Interest	35 40
Kerosene certificates	2 50
Agreement	1 15
Contract	1 55
Express licenses	215 00
Itinerant vendor's license	24 75
	$2,520 95

In addition to the above, there has been received for applications for pool table licenses $74.00, and the sum of $47.85 has been paid for advertising said applications, leaving a balance of $26.15, which has been paid to the City Treasurer. There has also been paid to the County Treasurer the sum of $5,555.20, being the amount due the county of Hampden for dog licenses, less fees for recording, from December 1, 1911, to December 1, 1912. The sum of $1,580.00, amount due for 9 hunters' licenses at $15.00 each, 3 at $10.00 each, and 1,415 at $1.00 each, has been paid to the State.

E. A. NEWELL, *City Clerk.*

SPRINGFIELD, MASS., January 6, 1913.

I hereby certify that the foregoing report of the City Clerk is correct, as per his records and receipts on file in his office.

W. C. MARSH,
Auditor of Accounts.

The number of marriage intentions filed during the year is	896
The number of marriages for the year is	1,089
The number of deaths for the year is	1,630
The number of births for the year is	2,900

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VOTERS AND REGISTRATION.

The following table shows the number of men and women who registered as voters in 1911 and 1912:—

1911.					1912.				
Ward.	Precinct.	Men.	Women.	Total.	Ward.	Precinct.	Men.	Women.	Total.
1	A	24		24	1	A	99	1	100
1	B	37		37	1	B	77		77
1	C	34	1	35	1	C	87	3	90
1	D	43		43	1	D	69	10	79
1	E	30		30	1	E	78	5	83
2	A	61		61	2	A	67	4	71
2	B	56		56	2	B	60	2	62
3	A	36	1	37	3	A	58	4	62
3	B	37		37	3	B	52		52
4	A	58		58	4	A	111	5	116
4	B	62	3	65	4	B	140	14	154
5	A	45		45	5	A	100	7	107
5	B	41		41	5	B	87	2	89
6	A	26	1	27	6	A	56	1	57
6	B	39		39	6	B	103	1	104
7	A	12	1	13	7	A	69	4	73
7	B	32	1	33	7	B	114	1	115
7	C	53		53	7	C	160	7	167
7	D	48	2	50	7	D	108	1	109
8	A	72	1	73	8	A	167	3	170
8	B	54	6	60	8	B	113	5	118
8	C	59		59	8	C	99	4	103
		959	17	976			2,074	84	2,158

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The following table shows the number of assessed polls and the number of men and women on the voting list at the city election December, 1911 and 1912:—

1911.					1912.				
Ward.	Precinct.	Assessed Polls.	Men.	Women.	Ward.	Precinct.	Assessed Polls.	Men.	Women.
1	A	948	478	1	1	A	1,118	557	2
1	B	944	654	8	1	B	1,011	705	6
1	C	1,095	604	9	1	C	1,054	618	10
1	D	926	563		1	D	960	610	10
1	E	1,042	621	5	1	E	1,054	655	10
2	A	1,243	646	2	2	A	1,164	650	6
2	B	1,644	489	3	2	B	1,580	469	5
3	A	740	372	4	3	A	880	398	8
3	B	950	442	3	3	B	871	429	1
4	A	1,361	700	22	4	A	1,373	761	25
4	B	1,358	932	50	4	B	1,387	1,007	59
5	A	1,059	800	44	5	A	1,121	878	48
5	B	1,185	738	12	5	B	1,208	782	13
6	A	1,226	436	3	6	A	1,177	432	4
6	B	1,420	776	15	6	B	1,405	845	15
7	A	793	484	6	7	A	823	515	10
7	B	1,121	792	25	7	B	1,172	883	25
7	C	1,373	944	5	7	C	1,477	1,143	12
7	D	1,185	892	34	7	D	1,302	1,026	32
8	A	1,525	909	14	8	A	1,701	1,094	14
8	B	1,330	897	27	8	B	1,399	991	31
8	C	1,768	685	3	8	C	1,909	746	7
		26,236	14,849	295			27,146	16,189	353

Respectfully submitted,

E. A. NEWELL, *City Clerk.*

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BOARD OF ALDERMEN, January 6, 1913.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, January 6, 1913.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, January 7, 1913.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., January 7, 1913.

Approved.

JOHN A. DENISON, *Mayor.*

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JURY LIST.

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CITY OF SPRINGFIELD.

LIST OF JURORS, 1912.

NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Abbott, Andrew P.,	275 Fulton st.,	Freight Train Master B. & M. R. R.
Ackerman, Guy O.,	730 Sumner ave.,	Advertising Agent, Worcester, Mass.
Adams, Aiden L.,	18 Ormond st.,	Commercial Traveler, Manchester, Conn.
Adams, Bernal H.,	36 Armory st.,	Collector, 351 Main st.
Adams, Charles,	30 Dover st.,	Florist, Dover st.
Adams, George F.,	31 Maple st.,	Banker, 464 Main st.
Adams, Robert W.,	167 Maple st.,	Provision Dealer, 16 to 40 Sanford st.
Adams, Walter,	44 Dover st.,	Florist, Dover st.
Adams, William H.,	191 Main st., I. O.,	Clerk, Bosch Magneto Co., N. Main st.
Addison, William,	820 State st.,	Builder, 820 State st.
Ahern, John J.,	85 Elliott st.,	Dentist, 351 Main st.
Ainsworth, Harry L.,	31 Wilmont st.,	Salesman, 422 and 135 Main st.
Albro, Henry L.,	377 St. James ave.,	Traveling Salesman, 49 Lyman st.
Alden, Arthur O.,	21 Clifton ave.,	Piano Tuner, 389 Main st.
Alderman, Harry M.,	136 Firglade ave.,	Clerk, 12 Harrison ave.
Alderman, Oliver C.,	39 Mountainview st.,	Merchant, 272 Main st.
Aldrich, William O.,	40 Plainfield st.,	Bartender, Not employed.
Alexander, Alexander,	501 Belmont ave.,	Buyer, 390-396 Main st.
Allbe, Charles A.,	53 Stebbins st.,	Plumber, 24 Willow st.
Allen, Albert W.,	52 Spruce st.,	Real Estate, 374 Main st.
Allen, Frank R.,	825 Worthington st.,	Shipping Clerk, 381 Main st.
Allen, J. Clarence,	7 Dorchester st.,	Dentist, 494 Main st.
Alstrom, Icilius T.,	268 Sumner ave.,	Retired.
Ambrose, Bryan F.,	15 Nelson ave.,	Foreman, 58 Harrison ave.
Amsden, Charles B.,	71 Catharine st.,	Clerk, 349-359 Main st.
Anderson, Arthur S.,	34 Thompson st.,	Clerk, 500 Main st.
Anderson, Fred,	32 Montmorenci st.,	Steam Fitter, 77 Dwight st.
Anderton, Henry,	191 Carew st.,	Grocer and Meat Dealer, 65½ Butler st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Angell, Ethan T.,	318 N Main st..	Foreman, Fisk ave.
Angers, George Arthur,	107 Marble st.,	Contractor and Builder, 327 Main st.
Annable, Leon S.,	2½ Main st.,	News Dealer, 2½ Main st.
Anthony, Charles,	26 Harriet st.,	Cigar Maker, 258 Main st.
Appleton, Allen L.,	334 Maple st.,	Acting Superintendent, 156 Wason ave.
Arnold, Louis W.,	438 N. Main st.,	News Dealer, 438 N. Main st.
Aronstam, Joseph,	63 N. Main st.,	Merchant, 95 Water st.
Asher, Albert F.,	38 Grosvenor st.,	Ice Cream Dealer, 48 Main st.
Atherton, Frank H.,	53 Greenwich st.,	Clerk, B. & M. R. R.
Atkins, Charles P.,	401 Chestnut st.,	Printer, Cor. Dwight and Harrison ave.
Atkins, Clarence J. ,	35 Ashley st.,	Profiler, Stockbridge st.
Atkins, Percy B.,	190 Thompson st.,	Traveling Salesman, Cross st.
Atkinson, James H.,	67 Alden st.,	Cabinet Maker, 349-359 Main st.
Atwood, A. Carroll,	238 White st.,	Shipping Clerk, 88 Birnie ave.
Avery, Edwin F.,	238 White st.,	Machinist, 47 Taylor st.
Avery, Robert C.,	101 Quincy st.,	Machinist, 837 State st.
Baab, Otto,	110 Westford ave.,	Piano Business, 21 Elm st.
Bailey, Fred P.,	98 Alderman st.,	Wood Molder, 850 State st.
Bailey, Henry J.,	146 Union st.,	Motorman, 5 N. Main st.
Bailey, Irwin B.,	359 Central st.,	Wheelwright, 16 Hickory st.
Baker, Edmund K.,	192 Maple st.,	Manufacturer, Armory st.
Baker, Frank H.,	57 Pomona st.,	Commercial Traveler, N. Adams, Mass.
Baker, Irving G.,	10 Crystal ave.,	Manager, 317 Main st.
Baker, Joseph G.,	Cor. Main and Howard st.,	Driver, Texas Oil Co.
Baker, William A.,	53 Bond st.,	Painter, 129 State st.
Baker, William G.,	58 Seventh st.,	Merchant, 216 Main st.
Baldwin, George C.,	351 Union st.,	Secretary, 60 Hampden st.
Baldwin, Thomas H.,	97 High st.,	Screw Maker, 65 Harrison ave.
Bangs, John C.,	17 Church st.,	Bookkeeper, Northampton.
Barber, William,	3 Central st.,	Insurance Solicitor, 25 Harrison ave.
Barker, Irvin R.,	95 Yale st.,	Druggist, 242 Main st.
Barlow, Moses M.,	32 Broad st.,	Foreman, 56 Boylston st.
Barnes, Frank M.,	34 Church st.,	Agent, 215 N. Main st.
Barnstead, Charles E.,	11 Hebron st.,	Machinist, 156 Wason ave.
Barr, Edgar E.,	137 Yale st.,	Storekeeper, 249-253 Bridge st.
Barrett, Albert W.,	62 Bancroft st.,	Machinist, Willow st.
Barrett, Gilbert R.,	28 Cleveland st.,	Printer, 17 Worthington st.
Barrett, Thomas J.,	74 Alexander st.,	Printer, Cor. Dwight and Bridge sts.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Barrus, Clifton L.,	62 Osgood st.,	Milk Dealer, 62 Osgood st.
Barthelmes, Oscar L.,	174 Hancock st.,	Inspector, Stockbridge st.
Bartlett, Chauncey I.,	28 John st.,	Carpenter, Boston & Maine R. R.
Bartlett, John L.,	510 Union st.,	Druggist, Not employed.
Bartlett, Leon E.,	106 Grenada ter.,	Clerk, 500 Main st.
Bashaw, Edward J.,	55 Sheldon st.,	Waiter, Holyoke.
Bassett, William A., Jr.,	Plumtree road,	Meter Inspector, 35 State St.
Bassette, Frederick A.,	167 Thompson st.,	Printer, Dwight st. and Harrison ave.
Bassin, Max,	31 Clinton st.,	Merchant, 174-176 Main st.
Batterson, Abraham B.,	85 Northampton ave.,	Salesman, 53 Wilbraham road.
Beadle, Fred A.,	180 Maple st.,	Electrician, Brightwood.
Beahn, James F.,	14 Grosvenor st.,	Bricklayer, 14 Grosvenor st.
Beals, James S.,	321 Wilbraham road,	Secretary, 194 Lyman st.
Bean, George S.,	53 Kenwood Park,	Commercial Traveler, 256 Elm st., Westfield, Mass.
Beardsley, Charles T.,	37 Bancroft st.,	Carpenter, 37 Bancroft st.
Bearg, Benjamin,	46 Huntington st.,	Tailor, 157 Main st.
Beaudry, Alfred J.,	39 Quincy st.,	Organ Maker, Westfield.
Beebe, Alexander,	62 School st.,	Manufacturer, 29 Worthington st.
Beebee, Frederick Graham,	166 State st.,	Drug Clerk, 530 Main st.
Belden, Allen M.,	104 Alden st.,	Milk Dealer, 104 Alden st.
Belden, Herbert T.,	129 Thompson st.,	Bank Teller, 241 Main st.
Belding, Everett E.,	15 Edwards st.,	Store Supplies, 47 Lyman st.
Belding, William C., Jr.,	135 Westminster st.,	Grocer, 455 State st.
Bell, William B.,	30 Spring st.,	Superintendent, 140 Wilbraham ave.
Bellamy, Thomas A.,	116 Patton st.,	Boiler Maker, B. & A. Shop, West Springfield.
Bemis, Charles E.,	31 Northampton ave.,	Bookkeeper, 30 Lyman st.
Benchley, Frank E.,	421 Bay st.,	Printer, Willow st.
Bengle, Charles, Jr.,	140 Berkshire st., I. O.	Clerk, 383 Main st.
Bennett, Albert E.,	53 Winthrop st.,	Superintendent, 16-32 Sanford st.
Bentley, Frederick E.,	597 Main st.,	Finisher, 225 Liberty st.
Bergdoll, Frederick,	304 Liberty st.,	Paper Cutter, Warwick ave.
Besse, Lyman W.,	29 Ingersoll Grove,	Clothier, Besse Place.
Bicknell, Fred A.,	23 James st.,	Gas Fitter, At home.
Bigelow, James H.,	14 Irvington ave.,	Draughtsman, 25 Harrison ave.
Bigelow, William D.,	624 State st.,	Clerk, 195 State st.
Bill, Raymond R.,	66 Dartmouth st.,	Manufacturer, 305-309 Main st.
Bills, Frank E.,	1130 State st.,	Foreman, Warwick ave.
Bird, Frank G.,	1232 North st.,	Carpenter and Millwright, 123 Carew st.
Birnie, Donald,	38 Madison ave.,	Manufacturer, 214 Birnie ave.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Birnie, Walter,	35 Ridgewood ter.,	Manufacturer, 214 Birnie ave.
Birnie, William P.,	34 Sterns ter.,	Manufacturer, 214 Birnie ave.
Blair, Atkins E.,	66 School st.,	Provision Dealer, 16-40 Sanford st.
Blair, Erwin O.,	62 Pomona st.,	Printer, 293 Main st.
Blanden, Henry H.,	457 Central st.,	Grocer's Clerk, 513 Sumner ave.
Bliss, Charles R.,	884 State st.,	Butcher, 225 King st.
Bliss, Edward S.,	32 Acushnet ave.,	Machinist, 23 State st.
Bliss, George G.,	153 Bowles st.,	Baker, 153 Bowles st.
Blodgett, Andrew, Jr.,	70 Westford ave.,	Salesman, 130 Lyman st.
Blodgett, Edwin A.,	10 Ingraham ave.,	Lumber Dealer, St. James Circle.
Blodgett, Henry,	42 Hampden st., I. O.,	Laborer.
Blodgett, Ralph G.,	20 Massachusetts ave.,	Salesman, 201-203 Worthington st.
Blodgett, Samuel H.,	304 Central st.,	Traveling Salesman, Brewer & Co., Worcester.
Blot, Lucien P.,	414 N. Main st.,	Foreman, 336 Birnie ave.
Bolter, Edwin A.,	60 Ringgold st.,	Machinist, Willow st.
Booth, Charles E.,	120 Hampden st., I. O.	Stock Clerk, Worcester st., I .O.
Booth, William H.,	34 Murray Hill ave.,	Mechanic, Harrison ave. and Dwight st.
Bowen, Orin A.,	90 Grosvenor st.,	Wood Working Mechanic, 837 State st.
Bowler, James F.,	336 Eastern ave.,	Contractor, 983 Main st.
Bowler, John J.,	328 Eastern ave.,	Cigar Maker, 457 Worthington st.
Bowles, Henry L.,	Hotel Kimball,	Lunch Room Keeper, 291 Main st.
Bowman, George W.,	83 Elm st.,	Electrician, 531 Main st.
Bowman, Henry N.,	74 Jefferson ave.,	Newspaper Man, 292 Main st.
Bradford, Edward S., Jr.,	359 State st.,	Treasurer, 1 Rowland ave.
Bradway, Menzies R.,	38½ Harrison ave.,	Janitor, 38½ Harrison ave.
Brick, Edward G.,	121 Pineywoods ave.,	Manager, 229 Armory st.
Broughall, Thomas F.,	142 Patton st.,	Funeral Director, 161 Bridge st.
Broughton, Louis S.,	16 Merrick ave.,	Grocer, Cor. Pine and Florence sts.
Brown, Franklin D.,	75 Hampden st., I. O.,	Machinist, Worcester st., I. O.
Brown, John A.,	107 Acushnet ave.,	Springfield Suburban Express, 263 Bridge st.
Brown, Kirk H.,	47 Mattoon st.,	Collector.
Brown, Lloyd D.,	136 Yale st.,	Clerk, 32 Main st.
Brownell, Edwin C.,	42 Wilbraham ave.,	Coal Dealer, 82 Waltham ave.
Brubaker, Harry E.,	34 Salem st.,	Manager, 38 Harrison ave.
Bryan, James A., Jr.,	263 Union st.,	Traveling Salesman, 1 Rowland ave.
Bryant, Eleazer,	82 Greene st.,	Wood Turner, 850 State st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Buck, Frank C.,	59 Princeton st.,	Telephone Foreman, 283 Worthington st.
Buckley, Hugh J.,	71 Avon place,	Salesman, 500 Main st.
Buffington, Lloyd W.,	15 Berendo ave.,	Telegrapher, 292 Main st.
Bugbee, Eugene M.,	24 Crosby ave.,	Wagon Builder and Painter, 10-16 Hickory st.
Bullard, Glenn M.,	9 Florence St.,	Clerk, Worcester st., I. O.
Bulley, George H.,	17 Howard place,	Machinist, 53 Wilbrahamroad.
Bunker, William L.,	22 Florentine Gardens,	Bookkeeper, 348 Main st.
Burdick, Arthur,	424 Central st.,	Candy Maker, 37 Harrison ave.
Burlingame, Frederick R.,	794 Sumner ave.,	Shipping Clerk, 73 Lyman st.
Burnett, Willis E.,	60 Spring st.,	Music Teacher.
Burnham, Erastus D.,	104 Buckingham st.,	Tobacco Dealer, Winsted, Conn.
Burns, Luke F.,	693 Liberty st.,	Steam Fitter, 151 Dwight st.
Butler, Frank M.,	27 Sargeant st.,	Merchant, 140 Lyman st.
Butler, Richard T.,	155 Bay st.,	Special Insurance Agent, 303 Main st.
Button, Frederick G.,	285 Main st.,	Real Estate and Builder, 285 Main st.
Byrne, Edward P.,	699 Belmont ave.,	Civil Engineer, 17 Hampden st.
Cady, Byron E.,	606 Sumner ave.,	Cigar Manufacturer, 9 Court House place.
Cady, Sidney H.,	31 Elm st.,	Furniture Business, 439 Main st.
Cady, William S.,	606 Sumner ave.,	Cigar Manufacturer, Court House place.
Caldwell, Winford N.,	20 Ridgewood place,	Paper Manufacturer, Holyoke.
Call, Arthur A.,	29 Locust st.,	Grocer, 144 State st.
Call, Guy,	45 Ledyard st.,	Merchant, 225 Worthington st.
Callahan, Thomas P.,	333 Franklin st.	City Foreman, 121 Bridge st.
Calnen, Thomas,	47 Hebron st.,	Bridge Builder, Norwood st.
Campbell, Daniel W.,	20 Abbe ave.,	Foreman, 98 Taylor st.
Carlin, Hugh,	28 Morris st.,	Box Maker, 48 Harrison ave.
Carmody, Frank C.,	373 Armory st.,	Steam Fitter, 31 Lyman st.
Carney, John J.,	15 Cleveland st.,	Butcher, 82 Main st.
Carney, William J.,	15 Cleveland st.,	Clerk, Brightwood.
Carpenter, William H.,	23 Leyfred ter.,	Real Estate Dealer, 469 Main st.
Carroll, Edward,	55 Manhattan st.,	Stone Cutter, East Longmeadow.
Carroll, James J.,	77 Hampden st., I. O.,	Foreman, Front st., I. O.
Carroll, Joseph J.,	14 Howard st.,	Fruit Dealer, 550 Main st.
Carroll, William T.,	57 Willis st.,	Stock Clerk, 312 Birnie ave.
Carter, Herbert W.,	116 Mulberry st.,	Merchant, 233 Worthington st.
Case, Adelbert B.,	Round Hill,	Manufacturer, 312 Birnie ave.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Casey, Dennis, Jr.,	82 Wilcox st.,	Monumental Business, Cor. State and Oak sts.
Casey, John,	55 Grosvenor st.,	Stone Mason, 55 Grosvenor st.
Chadwick, Charles F.,	58 Princeton st.,	Traveling Salesman, 278 Chestnut st.
Chamberlin, George H.,	53 Firglade av.,	Assistant Superintendent, Stockbridge st.
Chamberlin, Joseph,	643 Sumner ave.,	Manager, 249 Main st.
Chamberlin, Willis G.,	33 Salem st.,	Bookkeeper, 34 Sanford st.
Champlin, Frank E.,	820 State st.,	Carpenter, 317 Main st.
Chapin, Frank M.,	57 Jefferson ave.,	Foreman, 317 Main st.
Chapin, Henry G.,	353 Maple st.,	Manufacturer, 317 Main st.
Chapin, Horatio T.,	257 Chestnut st.,	Mechanic, 121 Bridge st.
Chapin, William,	891 State st.,	Envelope Cutter, Orleans, cor. Quincy st.
Chapin, William H.,	236 Main st.,	Proprietor, 236 Main st.
Chapman, Albert G.,	1102 State st.,	Foreman, Warwick ave.
Chapman, Harvey,	138 Bay st.,	Merchant, 141 Lyman st.
Chauncey, Byron A.,	98 Florence st.,	Clerk, 21 Cypress st.
Childs, Robert P.,	31 Elliott st.,	Manufacturer, 332 Main st.
Christopher, Handley S.,	409 Union st.,	Buyer, 349-359 Main st.
Clampit, George W.,	916 Main st.,	Blacksmith, 916 Main st.
Clapp, Z. Charles,	56 Florence st.,	Steam Fitter, 6 Symonds ave.
Clark, Clarence O.,	33 Edwards st.,	Bookkeeper, 225 Liberty st.
Clark, Harry W.,	593 Sumner ave.,	Broker, 318 Main st.
Clark, James H.,	153 Catharine st.,	Clerk, 349-359 Main st.
Clark, James P.,	111 Ingersoll Grove,	Wholesale Grocer, 14-16 Lyman st.
Clark, John H.,	510 Liberty st.,	Retired.
Clark, Peter,	54 Roseland st.,	Peddler, 54 Roseland st.
Clarke, Charles Frederick,	544 Sumner ave.,	Commercial Traveler, Revere, Mass.
Clement, Horace F.,	3 Salem st.,	Buyer, 41-45 Hampden st.
Cleveland, Ernest E.,	28 Lyndale st.,	State Building Inspector, 21 Besse place.
Coburn, Edward C.,	117 Essex st., I. O.,	Agent, 143½ Main st., I. O.
Cody, Nicholas T.,	527 Chestnut st.,	Liquor Dealer, 137 Main st.
Cody, William H.,	285 Chestnut st.,	Cigar Maker, 457 Worthington st.
Coe, David C.,	237 Long Hill st.,	Merchant Tailor, 307 Main st.
Colburn, Charles D.,	179 Allen st.,	Stableman, 20 York st.
Collins, J. Frank,	170 Florida st.,	Merchant, 156 Lyman st.
Collins, J. Frank,	115 Yale st.,	Salesman, 156 Lyman st.
Collins, John F.,	422 Chestnut st.,	Teamster, 88 Liberty st.
Collins, Thomas M., Jr.,	520 Armory st.,	Bricklayer, 41 Pynchon st.
Collins, Thomas P.,	55 N. Main st.,	Clerk, 66 Bridge st.
Collins, Timothy J.,	60 Vinton st.,	Electrical Contractor, 2 Court House place.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Colton, Albert W.,	103 Acushnet ave.,	Plater, 17 Taylor st.
Colwell, Harding H.,	84 Oak st.. I. O.,	Salesman, 130 Lyman st.
Colwell, Howard S.,	111 Berkshire st., I. O.,	Clerk, Front st., I. O.
Colwell, Walter S.,	111 Berkshire st., I. O.,	Retired.
Combs, Louis E.,	115 Florence st.,	Bank Clerk, 500 Main st.
Cone, William A.,	77 Clarendon st.,	Insurance Agent, 307 Main st.
Conlin, Bernard J.,	42 Bancroft st.,	Steam Fitter, 106 Worthington st.
Conlin, Frank J.,	22 Brookline ave.,	Shoe Dealer, 376 Main st.
Conlin, Thomas M.,	33 Prospect ter.,	Switch Tender, B. & A. R. R.
Connell, George C.,	105 Commonwealth ave.,	Printer, 29 Worthington st.
Connor, John H.,	24 Adams st.,	Cigar Maker, 275 Main st.
Cook, George S.,	1462 North st.,	Hay and Grain Dealer, Cypress st.
Cooley, Moses L.,	93 Acushnet ave.,	Storekeeper, 605 Main st.
Coomes, Elias F.,	385 Belmont ave.,	Brick Maker, 361 Main st.
Cooper, Charles F.,	179 Wilbraham road,	Brass Worker, Fairbanks place.
Cooper, George C.,	49 Orleans st.,	Clerk, 837 State st.
Cooper, Leslie A.,	36 Alderman st.,	Machinist, 275 Main st.
Corbin, Arthur O.,	110 Florida st.,	Traveling Salesman, Austin Nichols, N. Y.
Cornell, Julius Myron,	144 Franklin st.,	Dentist, 120 Main st.
Cotter, James J.,	34 Pearl st.,	Plumber, 328 Dwight st.
Courtney, John J.,	23 Butler st.,	Cigar Maker, 309 Main st.
Cowles, Myron O.,	107 High st.,	Accountant, Stevens Duryea Co., Chicopee Falls.
Cowles, Raymond M.,	66 Ventura st.,	Insurance Agent, 25 Harrison ave.
Cowles, Thomas L.,	66 Ventura st.,	Draughtsman, Chicopee Falls.
Craig, L. Bertram,	501 Allen st.,	Carpet Layer, 349-359 Main st.
Craig, Samuel,	90 Calhoun st.,	Foreman, Ames Sword Co., Foot Grape st., Chicopee.
Cram, Charles H.,	172 Long Hill st.,	Retired.
Cramond, Hugh,	E.S. Coleman st., I.O.,	Insurance Agent, Besse bldg.
Crane, John P.,	13 Oak st., I. O.,	Superintendent, Front st., I. O.
Crawford, Robert H.,	86 Alden st.,	Manager, 86 Alden st.
Crofoot, William S.,	55 Oak st., I. O.,	Mechanic, Front st., I. O.
Crowley, John J.,	84 Linden st.,	Coal Merchant, 84 Linden st.
Crowley, Patrick A.,	38 Main st.,	Cigar Manufacturer, 194 Main st.
Crowninshield, Charles H.,	82 Bolyston st.,	Shirt Ironer, 78½ Bliss st.
Cunliffe, Albert E.,	230 Eastern ave.,	Jeweler, 188 Worthington st.
Cunningham, John S.,	94 Tyler st.,	Real Estate Dealer, 318 Main st.
Curley, James E.,	26 Clifton ave.,	Druggist, 296 Hancock st.
Curtis, Howard F.,	38 Acushnet ave.,	Dyer, 15 Mill st.
Cutler, William W.,	366 Union st.,	Mechanic, Stockbridge st.
Cutting, Addison F.,	27 Cherrelyn ave.,	Gardener, All about the city.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Dailey, James H.,	16 Howard st.,	Barber, 120 State st.
Daley, Thomas E.,	62 Waverly st.,	Merchant, 374 Chestnut st.
Dart, Andrew P.,	51 Tyler st.,	Auto Repairer, 461 Worthington st.
Dart, Walter H.,	40 Wellesley st.,	Clerk, 500 Main st.
Davis, Charles E.,	879 Worthington st.,	Construction Foreman, 283 Worthington st.
Davis, Winthrop I.,	17 Chase ave.,	Insurance Agent, 419 Main st.
Davison, Henry B.,	76 Buckingham st.,	Jeweler, 471 Main st.
Davison, William L.,	71 Yale st.,	Traveling Salesman, Waterville, Conn.
Davitt, Daniel J.,	410 Liberty st.,	Proprietor Davitt Iron Works, 197-211 Liberty st.
Day, Robert F.,	156 Harvard st.,	Clerk, Cypress st.
Day, Robert W.,	265 State st.,	President, 37 State st.
Dean, Frederick A.,	115 State st.,	Music Dealer, 115 State st.
Dean, Thomas P.,	198 Belmont ave.,	Rep. King Chemical Co., 26 Indie st., Boston.
Dearden, Clarence E.,	369 Wilbraham road,	Sheet Metal Worker, 21 Taylor st.
DeFrate, Coville,	82 Harrison ave.,	Boarding Stable Keeper, rear 24 Harrison ave.
DeGolyer, Sydney B.,	41 Mulberry st.,	Clerk, 60 Hampden st.
Delehanty, James W.,	76 Grand st.,	Druggist, 492 Mill st.
Denver, Paul H.,	85 Bowles st.,	Shipping Clerk, 53 Wilbraham road.
Dexter, William H.,	19 Ingersoll Grove,	Real Estate Dealer, 25 Elm st.
Dibble, Burton E.,	107 Harvard st.,	Commercial Traveler, Boston.
Dineen, James,	168 Liberty st.,	Brick Mason, 168 Liberty st.
Doersam, Franz Otto,	40 Murray Hill ave.,	Cigar Maker, 258 Main st.
Donahue, John T.,	400 Liberty st.,	Telegraph Operator, Boston & Albany R. R.
Donnellan, Thomas J.,	45 Massasoit st.,	Molder, Chicopee.
Donoghue, Michael,	117 Franklin st.,	Stone Cutter, Not employed.
Donohue, Daniel P.,	63 Palmer ave.,	Clerk, 214 Worthington st.
Donovan, James,	117½ Congress st.,	Painter, 107½ Congress st.
Donovan, John T.,	56 Greenwood st.,	Clerk, 204 Main st.
Donovan, Thomas,	143 Bond st.,	Foreman, 24 Lyman st.
Donovan, William J.,	158 North st.,	Dealer in Barber Supplies, 204 Main st.
Doolittle, Edwin F.,	335 Oakland st.,	Inspector, B. & M. R. R.
Doolittle, Frank P.,	120 Maplewood ter.,	Salesman, 258 Main st.
Douglass, James C.,	73 Acushnet ave.,	Tool Maker, Stockbridge st.
Dow, Frank B.,	22 Howard place,	Painter and Paper Hanger, 22 Howard st.
Dowd, George B.,	23 Beech st.,	Commercial Traveler, 317 Main st.
Dowd, O. Frank,	26 Alderman st.,	Tailor, 26 Alderman st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Dowd, William F.,	18 Genesee st.,	Salesman, 41 Hampden st.
Dowling, Edward,	122 Greenwood st.,	Plumber, 193 Lyman st.
Dowling, Daniel J.,	40 Greenwood st.,	Painter, B. & M. R. R.
Downey, James J.,	20 Everett st.,	Merchant, 220 Main st.
Doyle, John F.,	54 Webster st.,	Merchant, 54 Webster st.
Doyle, Michael J.,	245 North st.,	Foreman, 116 Bridge st.
Drake, Arthur N.,	108 N. Main st.,	Sexton, First Church.
Drake, Thomas,	130 Everett st.,	Plumber, 13 Market st.
Dubois, Herbert E.,	rear 22 Church st.,	Machinist, 5 N. Main st.
Dugan, Michael H.,	99 Acushnet ave.,	Tinsmith, 9 Willow st.
Duggan, Charles F.,	140 Northampton ave.,	Clerk, 837 State st.
Dumbleton, Frederick H.,	26 Euclid ave.,	Bookkeeper, 500 Main st.
Dunn, James E.,	24 Congress st.,	Bookkeeper, 183 Main st.
Dunn, Peter J.,	24 Congress st.,	Clerk, 160 Main st.
Dwight, George B.,	24 Besse place,	Packer, 35-45 Hampden st.
Dyotte, Henry,	56 Broad st.,	Meat Cutter, Unemployed.
Eaton, Raymond H.,	11 Carpenter court,	Shipping Clerk, 141 Lyman st.
Eberhardt, Oscar A.,	47 Demond ave.,	Secretary, Railroad place.
Edwards, Joseph B.,	433 Franklin st.,	Printer, 220 Franklin st.
Eichler, Henry,	373½ Main st.,	Photographer, 389 Main st.
Eldred, Fred A.,	25 Westford ave.,	Custodian, 407 Main st.
Elsey, Harry P.,	207 Belmont ave.,	Druggist, 441 Armory st.
Emerson, Edwin,	99 Jefferson ave.,	Foreman, Mittineague.
Emerson, John B.,	70 Charles st.,	Motorman, 5 N. Main st.
English, Thomas,	378 N. Main st.,	Newspaperman, 216 Worthington st.
Erard, Philip Valmore,	12 Adams st.,	Drug Clerk, Cor. Linden and Chestnut sts.
Erickson, Louis G.,	872 Liberty st.,	Soap Manufacturer, 882 Liberty st.
Evans, Willis A.,	143 Berkshire st.,	I. O., Mechanic, Pine st., I. O.
Ewig, Julius,	128 Walnut st.,	Real Estate Dealer, 381 Main st.
Fahey, Andrew D., Jr.,	55 Medford st.,	Motorman, 5 Carew st.
Fairchild, Robert M.,	692½ Main st.,	Clerk, 694 Main st.
Falt, Joseph B.,	123 Ingersoll grove,	Foreman, Armory st.
Falvey, Arthur W.,	115 Linden st.,	Contractor, 115 Linden st.
Farrell, Frederick W.,	178 Maple st.,	Chemist, 177 State st.
Farrell, Matthew H.,	23 Pecousic ave.,	Cigar Manufacturer, 71 Norwood st.
Fenn, George L.,	208 Ft. Pleasant ave.,	Dentist, 310 Main st.
Ferrier, James Fraser,	312 Liberty st.,	Draughtsman, 284 Birnie ave.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Ferris, Thomas H.,	111 Greenwood st.,	Foreman, 21-25 Clinton st.
Ferry, George C.,	159 Oakland st.,	Carpenter, Cor. Broad and Hanover sts.
Field, Robert W.,	351 Main st.,	Musician, 351 Main st.
Findeisen, John G.,	15 Westford ave.,	Bookkeeper, 1273 State st.
Fiske, Eugene E.,	48 Leyfred ter.,	Assistant Treasurer, 109 Lyman st.
Fitch, Charles H.,	44 Church st.,	Blacksmith, 18 Liberty st.
Fitch, Henry W.,	83 Greenwood st.,	Proprietor, 18 Liberty st.
Fitzgerald, James J.,	77 Commonwealth ave.,	Inspector, 123 Bridge st.
Flagg, Charles W.,	151 Lebanon st.,	Driver, 125 Wilbraham road.
Flagg, Fred M.,	32 Thompson st.,	Ice Dealer, Hickory st.
Fletcher, Harlan F.,	115 Thompson st.,	Merchant, 358 Main st.
Flint, Herbert E.,	155 Catharine st.,	Civil Engineer, 43 Bridge st.
Flynn, William E.,	22 Dale st.,	Stone Cutter, 233 Liberty st.
Foley, Timothy J.,	98 Tyler st.,	Grocer, 107-109-111 Hancock st.
Folsom, James L.,	127 Forest Park Ave.,	Artist, Thompsonville, Conn.
Ford, Ransom H.,	42½ Harrison ave.,	Machinist, 53 Wilbraham road.
Ford, William H.,	22 Ft. Pleasant ave.,	Machinist, 964 Main st.
Ford, Willis A.,	208 Belmont ave.,	Superintendent, 33 Lyman st.
Foster, John W.,	118 Allen st.,	Architect, 15 Woodworth ave.
Foster, William,	15 Quincy st.,	Carpenter, 12 Cass st.
Fountain, Fred E.,	65 Knox st.,	Assistant Foreman, Heywood cor. Warwick ave.
Fowler, Dorr R.,	707 State st.,	Broker, 317 Main st.
Fowler, Frank H.,	80 Sargeant st.,	Auto Salesman, 34-40 Sanford st.
Fowler, Ralph N.,	121 Princeton st.,	Paper Manufacturer, Riverside, Mass.
Fowler, Ralph P.,	121 Princeton st.,	Paper Manufacturer, Riverside, Mass.
Fox, George A.,	95 High st.,	Traveling Salesman, Cross st.
Frawley, Thomas J.,	148 Abbe ave.,	Steward, 236-238 Main st.
Freedman, Joseph,	49 Clinton st.,	Junk Dealer, 64 Ferry st.
French, William H.,	138 Marion st.,	Foreman, 283 Worthington st.
Frenier, Maxim O.,	587 Union st.,	Draughtsman, 53 Wilbraham road.
Fretts, George H.,	70 Pomona st.,	Salesman, 317 Liberty st.
Frey, Charles,	24 Grove st.,	Motorman, 5 N. Main st.
Fronk, William C.,	21 Alfred st.,	Draughtsman, 837 State st.
Frost, Charles E.,	32 Emery st.,	Storekeeper, 171 Main st.
Frost, George A.,	32 Emery st.,	Storekeeper, 32 Main st.
Fuller, Frank D.,	169 Princeton st.,	Secretary, 336 Birnie ave.
Fuller, Frederic W.,	328 Union st.,	Insurance, 25 Harrison ave.
Fuller, William J.,	53 Buckingham st.,	Liveryman, 24 Hancock st.
Fulton, Albert W.,	5 Ridgewood ter.,	Publisher, 29 Worthington st.
Fulton, John B.,	68 Bradford St.,	Foreman, 43 Lyman st.
Furrows, Albert H.,	38 Plymouth st.,	Manager, 13 Elm st.
Furrows, Samuel E.,	43 Calhoun st.,	Bookkeeper, 258 Main st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Gage, Charles A.,	179 White st.,	Painter, 341 Oakland st.
Gage, William H.,	179 White st.,	Machinist, Stockbridge st.
Gagnier, Christopher I.,	Locust Hill,	Contractor, 327 Main st.
Gallagher, Edward J.,	16 Tenth st.,	Motorman, 5 N. Main st.
Gammons, William L.,	1604 North st.,	Bookkeeper, 500 Main st.
Gardner, George C.,	251 Rimmon ave.,	Architect, 33 Lyman st.
Garvey, Patrick T.,	36 Franklin st.,	Foreman and Carpenter, 64 Worthington st.
Garvey, Thomas M.,	36 Franklin st.,	Conductor, 5 N. Main st.
Gates, Albert H.,	13 Hawthorne st.,	Clerk, 139 State st.
Gates, Everett E.,	115 School st.,	Foreman, Broad cor. Hanover st.
Gaunt, Frank L.,	343 Walnut st.,	Grocer, 351 Walnut st.
Geiger, George K.,	270 Liberty st.,	Mechanical Engineer, 270 Liberty st.
Gemme, Frederic,	521 Plainfield st.,	Barber, 521 Plainfield st.
George, Charles H.,	161 Walnut st.,	Machinist, Westfield.
Gibbins, William,	69 Auburn st.,	Machinist, 106-110 Taylor st.
Gibbs, J. Edwin,	63 Waverly st.,	Assistant Superintendent, 476 Main st.
Gifford, Albert W.,	72 Princeton st.,	Locksmith, 26 Fort st.
Gifford, Theron M.,	75 Northampton ave.,	Trimmer, 53 Wilbraham road.
Gilbert, Harry S.,	20 Kenwood ter.,	Bookkeeper, 310 Main st.
Gilmore, James S.,	119 Hampden st., I. O.,	Foreman, Front st., I. O.
Gleason, John J.,	42 Linden st.,	Funeral Director, 383 Dwight st.
Godfrey, William C.,	105 Hampden st., I. O.,	Agent, Front st., I. O.
Goesling, Albert C.,	71 Northampton ave.,	Lithographer, 140 Wilbraham ave.
Goldin, Joseph,	20 Hebron st.,	Steamship Agent, 4 Ferry st.
Goldstein, Benjamin,	618 Sumner ave.,	Clothier, 17 Elm st.
Gould, Frank L.,	86 Firglade ave.,	Clerk, 35 State st.
Gowdy, William F.,	62 Harvard st.,	Foreman, 283 Worthington st.
Grady, Conor C.,	37 Thomas st.,	Collector, 37 Thomas st.
Graham, George H.,	19 Monmouth st.,	Tailor, 423 Main st.
Graham, James,	88 Acushnet ave.,	Tool Maker, ft. Howard st.
Graves, John E.,	64 Marble st.,	Furnace and Range Repairer, 64 Marble st.
Greany, James E. R.,	524 Armory st.,	Counterman, 201 Chestnut st.
Greany, Peter,	54 Everett st.,	Hackman, 54 Everett st.
Green, Albert R.,	104 N. Main st.,	Foreman, 21 Cypress st.
Green, William F.,	3 Salem st.,	Manufacturer, 7 Taylor st.
Greene, Howard M.,	37 McKnight st.,	Clerk, 195 State st.
Griffin, Thomas J.,	45 Linden st.,	Towerman, B. & A. R. R.
Grise, Joseph,	29 Vine st.,	Building Repairer, 29 Vine st.
Grout, Frank W.,	99 Acushnet ave.,	Mattress Maker, South st.
Grover, Harry L.,	20 Holyoke st.,	Tool Maker, 436-440 Main st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Guenther, Emil,	69 Palmer ave.,	Grocer, 7 Stockbridge st.
Guess, William J.,	590 Armory st.,	Pressman, 17 Worthington st.
Hadd, George H.,	66 Pynchon st.,	Barber, 25 East Court st.
Hagerty, Daniel A.,	122 Franklin st.,	Shipping Clerk, 29 Worthington st.
Hale, Albert E.,	64 Seventh st.,	Merchant, 3 Post Office Square.
Hale, Clifford E.,	127 Jefferson ave.,	Foreman, Wason ave.
Hall, Edward H.,	399 Union st.,	Assistant Treasurer, Main st., Holyoke.
Hall, Fred J.,	24 Besse place,	Marvel Manufacturing Co., 168 Bridge st.
Hall, George A.,	24 John st.,	Traveling Salesman, 24 John st.
Hall, George W.,	38 Jefferson ave.,	Not employed.
Hall, Walter E.,	350 Dickinson st.,	Printer, 57 Harrison ave.
Hall, William G.,	133 Cedar st.,	Junk Dealer, 129 Cedar st.
Halstead, Charles E.,	47 Merwin st.,	Coal Merchant, 152 Main st.
Halstead, Frank J.,	47 Merwin st.,	Clerk, 392 Main st.
Halstead, Leroy W.,	47 Birnie ave.,	Clerk, 227 Main st.
Hammond, William E.,	146 Hampshire st., I .O.	Not employed.
Handy, Herbert L.,	153 Princeton st.,	Merchant, 41-45 Hampden st.
Handy, Herman H.,	153 Princeton st.,	Merchant, 41-45 Hampden st.
Hanifin, Frank T.,	54 Plainfield st.,	Shipping Clerk, 19 Worthington st.
Hannan, Francis,	48 Stebbins st.,	Insurance Agent, 500 Main st.
Hannon, Hugh F.,	43 Acushnet ave.,	Manufacturer, 30 Taylor st.
Harder, F. Gordon,	76 Westford ave.,	Coal and Grain Dealer, 39 Colton st.
Hare, Albert P.,	36 Main st.,	Real Estate Dealer, 36 Main st.
Harrington, Daniel J., Jr.,	420 N. Main st.,	Salesman, 140 Lyman st.
Harrington, Michael E.,	22 Morris st.,	Sheet Metal Contractor, 2 Park st.
Harris, M. Victor,	47 Tenth st.,	Printer, 292 Main st.
Hart, Walter S.,	22 Clarendon st.,	Foreman, B. & A. R. R.
Harvey, David L.,	99 St. James ave.,	Manager, 17 Hancock st.
Harvey, William E.,	366 Hancock st.,	Draughtsman, Brightwood.
Harwood, Leon M.,	958 State st.,	Manufacturer, 104 Andrew st.
Haskins, William H.,	36 Maplewood ter.,	Assistant Treasurer, 407 Main st.
Hastings, Herbert A.,	355 Maple st.,	Contractor, at home.
Hathaway, Alfred R.,	79 Marengo Park,	Water Registrar, 123 Bridge st.
Havens, George H.,	68 Woodside ter.,	Insurance Agent, 500 Main st.
Hawes, Leon E.,	48 Garfield st.,	Merchant, 416 Main st.
Hawkes, Louis T.,	92 Bancroft st.,	Clerk, 195 State st.
Hawkes, Thomas C.,	76 Byers st.,	Commercial Photographer.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Hayden, William J.,	58 Massachusetts ave.,	Cylinder Coverer, Warwick ave.
Hayes, James J.,	91 Butler st.,	Meter Inspector, Electric Light Station.
Hayes, Timothy P.,	123 Main st.,	Laborer, 9 Sharon st.
Hayhurst, James C.,	10 Stebbins st.,	Artist, Warwick ave.
Hazelwood, Frank A., Jr.,	24 John st.,	Shipping Clerk, 309 Main st.
Healy, Martin H.,	54 Greenwich st.,	Insurance Agent, 476 Main st.
Hendee, George M.,	Nayasset Club,	President Hendee Manuf. Co., 837 State st.
Hennessey, Matthew J.,	84 Everett st.,	Inspector, 983 Main st.
Hennessey, John B.,	30 Murray Hill ave.,	Compositor, 292 Main st.
Hennessey, Martin J.,	80 Massasoit st.,	Conductor, 5 N. Main st.
Hennessey, William A.,	84 Adams st.,	Plumber, 13 Market st.
Henry, George F.,	69 Cass st.,	Mattress Maker, 357 Main st.
Hersey, George L.,	43 Stebbins st.,	Furniture Dealer, 35 Worthington st.
Hickey, Thomas,	88 Chestnut st.,	Insurance Agent, 500 Main st.
Hicks, Walter J.,	49 Murray Hill ave.,	Traveling Salesman, Newark, N. J.
Higgins, Gordon W.,	71 Bliss st.,	Canvasser, Springfield and Vicinity.
Hill, Frank W.,	20 Mattoon st.,	Salesman, 345 Main st.
Hillman, Frederick J.,	34 Leyfred ter.,	President, 15 Elm st.
Hillman, Ralph E.,	15 Hawley st.,	Agent, 15 Hawley st.
Hine, Eugene L.,	34 Florence st.,	Electroplater, not employed.
Hitchcock, Asher H.,	25 Churchill st.,	Optician, 317 Main st.
Hixon, Harold W.,	105 Central st.,	Clerk, 317 Main st.
Hoag, David A.,	42 Sumner ave.,	Salesman, 357 Main st.
Hoag, Harry A.,	30 Clifton ave.,	Foreman, 41 Bay st.
Hoar, John F.,	442 Liberty st.,	Bookkeeper, 54 Fort st.
Hodgdon, Wilson R.,	56 High st.,	Teller, 464 Main st.
Hodges, George C.,	48 Grenada ter.,	Merchant, 618 Main st.
Hoffman, August J.,	28 Acushnet ave.,	Upholsterer, 349-359 Main st.
Holcomb, Burt R.,	46 Wellesley st.,	Storekeeper, 297 Main st.
Holian, Jerry W.,	75 Cass st.,	Merchant, 261 Chestnut st.
Holland, Charles E.,	78 Florence st.,	Machinist, 193 Lyman st.
Holland, James,	406 St. James ave.,	Clerk, 86 Main st.
Holmes, Frederick A.,	8 Auburn st.,	Cigar Dealer, 27 N. Main st.
Holmes, Frederick M.,	52 Seventh st.,	Machinist, 54 Taylor st.
Hooker, Louis W.,	558 Plainfield st.,	Superintendent, Brightwood.
Hoone, Thomas J.,	31 Auburn st.,	Machinist, 43 Lyman st.
Hopkins, Daniel A.,	93 Wilbraham road,	Traveling Salesman, 201-203 Worthington st.
Hopkins, John P.,	4 Hampden st., I. O.,	Comb Cutter, Worcester st., I. O.
Horr, Irving S.,	60 Buckingham st.,	Clerk, 390-396 Main st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Hosley, Charles D.,	1166 Worthington st.,	Jeweler, 449 Main st.
Hosmer, Eugene C.,	187 King st.,	Salesman, 54 Taylor st.
Howard, Walter E.,	26 Besse place,	Wood Worker, 179 Harrison ave.
Howe, Fred G.,	372 St. James ave.,	Music Dealer, 170 State st.
Howe, George M.,	958 State st.,	Clerk, 500 Main st.
Howe, George M.,	22 Catharine st.,	Carpenter, Palmer Carpet Mills.
Howe, Walter R.,	372 St. James ave.,	Salesman, 170 State st.
Howes, Harry W.,	56 Bancroft st.,	Printer, 56 Bancroft st.
Howland, Edward R.,	18 Forest Park ave.,	Insurance Agent, 274 Main st.
Hoyt, Charles L.,	139 Bay st.,	Furrier, 149 State st.
Hubbard, Charles G.,	57 Alden st.,	Clerk, 321 Main st.
Hubbard, Fred A.,	80 Florida st.,	Manager, 317 Main st.
Hubbard, George D.,	57 Alden st.,	Pickle Manufacturer, 57 Alden st.
Hubbell, Frederick C.,	19 Cliftwood ave.,	Machinist, 261 Main st.
Hubbell, George H.,	90 Palmer ave.,	Automobile Dealer, 2 Park st.
Huettner, Henry S.,	566 Main st.,	Baker, 568 Main st.
Huie, Herbert E.,	121 Wilbraham road,	Secretary and Treasurer, 500 Main st.
Huliston, James,	58 Armory st.,	Buyer, 390-396 Main st.
Humphrey, William H.,	25 Hawley st.,	Bookkeeper, 77 Temple st.
Hunt, Edward B.,	54 Forest st.,	Treasurer, 25 Harrison ave.
Huntting, Henry R.,	22 Temple st.,	Merchant, 21 Besse place.
Hurwitz, Sam,	42 Plymouth st.,	Merchant, 42 Plymouth st.
Hutchins, Willie A.,	60 Hancock st.,	Clerk, 55 Harrison ave.
Hutchinson, Charles R.,	30 Sherman st.,	Salesman and Jobber, 30 Sherman st.
Hyde, Jerome W.,	69 Lyman st.,	Manager, 69 Lyman st.
Hyde, Judson F.,	10 Alden st.,	Tinsmith, 143 Dwight st.
Hyde, Thomas W.,	24 Avon place,	Insurance, 500 Main st.
Hynes, Edward,	59 N. Main st.,	Watchman, Lyman st.
Hynes, Edward V.,	57 Cass st.,	Conductor, 5 N. Main st.
Inman, Charles J.,	61 Yale st.,	Agent, Albany st.
Ireland, Charles,	476 Main st.,	Janitor, 476 Main st.
Irving, Dean,	236 Main st.,	Hotel Clerk, 236 Main st.
Irwin, Thomas W.,	85 Hampshire st., I. O.,	Timekeeper, Ludlow.
Janes, Arthur L.,	116 Florence st.,	Secretary, Fisk ave.
Jefferson, Charles J.,	50 Jefferson ave.,	Machinist, 65 Main st.
Jensen, Franz G.,	199 Forest Park ave.,	Confectioner, 319 Main st.
Johnson, Allison F.,	151 Johnson st.,	Salesman, 145 Hampden st.
Johnson, Charles B.,	358 Chestnut st.,	Machinist, 54 Taylor st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Johnson, Charles W.,	128 Orleans st.,	Photographer, 128 Orleans st.
Johnson, Edward C.,	173 Thompson st.,	Circulating Manager, 381 Main st.
Johnson, Elwin B.,	64 Pease st.,	Cabinet Maker, 29 E. Court st.
Johnson, Henry R.,	53 Fairchild st.,	Dealer in Books, 391 Main st.
Johnson, Marshall R.,	74 Temple st.,	Prescription Clerk, not employed.
Jones, Samuel M.,	N. S. Boston road,	Real Estate and Farmer, N. S. Boston road.
Jones, Samuel M., Jr.,	N. S. Boston road,	Clerk, 17 Besse place.
Jones, Wilbur F.,	191 Marion st.,	Clerk, 7 Elm st.
Jordon, John D.,	16 Terrence st.,	Contractor, 16 Terrence st.
Jordon, William H.,	345 Central st.,	Pawnbroker, 432 Main st.
Kane, John,	22 Crestwood st.,	Meat Dealer, 130 Lyman st.
Kane, Richard E.,	198 Northampton ave.,	Chef, 22 Main st.
Katz, Louis,	67 Church st.,	Hotel Keeper, 556 Main st.
Kavanagh, William,	52 Howard st.,	Furniture Dealer, 443 State st.
Kehoe, John,	51 Hebron st.,	Carpenter, 51 Hebron st.
Keith, John E.,	167 Marion st.,	Storekeeper, East Court st.
Keith, William J.,	24 Grove st.,	Meat Cutter, 283 N. Main st.
Kelley, Edward W.,	412 Walnut st.,	Brick Mason, all about the city.
Kelley, John D.,	465 Main st.,	Dancing Teacher, 465 Main st.
Kelliher, John J.,	51 Huntington st.,	Parcel Delivery, 51 Huntington st.
Kelliher, Thomas F.,	124 Greenwood st.,	Printer, cor. Main and Lyman sts.
Kellogg, Fred T.,	120 Maple st.,	Manufacturer, 395 Dwight st.
Kelton, Chester M.,	43 Princeton st.,	Tailor, 295 Main st.
Kemater, George H.,	245 St. James ave.,	Treasurer, 500 Main st.
Kendall, Elwin D.,	217 Oakland st.,	Clerk, 217 Oakland st.
Kendrick, Harley J.,	19 Vassar st.,	Storekeeper, 243 Bay st.
Keyes, Henry S.,	129 Essex st.,	Clerk, Main st., Chicopee Falls.
Keyes, Lester B.,	101 Yale st.,	Wire Chief, 283 Worthington st.
Kibbe, Charles A.,	196 Pearl st.,	Retired.
Kibbe, Robert H.,	91 Wilbraham ave.,	Assembler, 837 State st.
Killam, Horace D.,	35 Winthrop st.,	Conductor, 5 N. Main st.
Killian, John,	58 Franklin st.,	Machinist, Rowland ave.
King, Walter H.,	175 Westford ave.,	Shipping Clerk, 37 Harrison ave.
Kites, Harry L.,	76 Byers st.,	Salesman, Warwick ave.
Kimball, Benjamin L.,	14 Washburn st.,	Furniture Dealer, 53 Main st.
King, Edward F.,	88 Carew st.,	Clerk, 160 Main st.
King, Henry W.,	112 North st.,	Clerk, 16 Main st.
Kirby, Joseph J.,	65 Washburn st.,	Plumber, 65 Washburn st.
Kirkham, J. Stuart,	107 Maplewood ter.,	Retired.
Kirwan, William P.,	254 Carew st.,	Manufacturer, 216 Worthington st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Knox, Harry A.,	242 Pearl st.,	Proprietor, 88 Birnie ave.
Kohn, Felix,	68 Plainfield st.,	Bookkeeper, 54 Fort st.
Kopelman, Jacob H.,	43 Main st.,	Merchant, Chicopee, Mass.
Kuenzel, Christopher W.,	17 Adams st.,	Jeweler, 119 State st.
Kuhn, Albert,	3 Sumner ave.,	Brewer, cor. Fort and Water sts.
LaBoeuf, Edward E.,	745 Carew st.,	Plumber, rear 745 Carew st.
Ladd, Benjamin W.,	67 Allen st.,	Dealer in Tea, 67 Allen st.
Ladd, Frederick S.,	856 Main st.,	Jeweler, 432 Main st.
Ladner, Archibald,	115 Princeton st.,	Real Estate Dealer, 115 Princeton st.
LaFrancis, Walter J.,	6 Geraldine ave.,	Carpenter, Carpenters' Union.
Laird, William H.,	33 Beechwood ave.,	Clerk, 359 Main st.
Lamb, Arthur C.,	30 Spring st.,	Sp. St. R. R. Co., 500 Main st.
Lane, Albert C.,	28 Chase ave.,	Commercial Traveler, Utica, N. Y.
Lane, Edward G.,	52 Pearl st.,	Automobile Dealer, 640 Main st.
Lane, Fred A.,	63 N. Main st.,	Clerk, 160 Main st.
Lane, Robert E.,	55 Nelson ave.,	Auto Salesman, cor. William and Main sts.
Lang, George D.,	5 Oak st.,	Assistant Secretary, 500 Main st.
Langdon, Grosvenor M.,	41 Forest st.,	Carpenter, 43 Cross st.
Langdon, Lucius C.,	329 Central st.,	Electrician, Worcester st., I. O.
Lannon, Charles B.,	46 Main st.,	Motorman, 5 N. Main st.
Larkin, William F.,	152 Central st.,	Salesman, 170 State st.
Lashorn, George L.,	83 Elm st.,	Machinist, not employed.
Latimer, Franklin A.,	36 Beechwood st.,	Superintendent, 310 Main st.
Lavigne, Eugene A.,	39 Beech st.,	Commercial Traveler, Albany, N. Y.
Lawler, Edward M.,	49 Acushnet ave.,	Barber, Worthington st.
Lawler, Maurice J.,	104 Congress St.,	Watchman, 336 Main st.
Lawler, Thomas,	121 Linden st.,	Foreman, 354 Birnie ave.
Lawless, John,	52 Vinton st.,	Carpet Layer, 349-359 Main st.
Leary, Christopher,	65 Kenwood Park,	Retired.
Leary, John C.,	83 Acushnet ave.,	Grocer, 692 Main st.
Leeds, Alfred,	27 Ridgewood ter.,	Manager, Main st., Holyoke.
Legate, Hartley D.,	35 Central st.,	Clerk, 618 Main st.
Legein, Joseph L.,	50 Howard st.,	Caterer, 50 Howard st.
Leitch, Meredith,	229 Rimmon ave.,	Civil Engineer, 229 Rimmon ave.
Leonard, John W.,	140 Franklin st.,	Conductor, 5 N. Main st.
Leshure, Willard P.,	561 N. Main st.,	Manufacturer, 118 Fisk ave.
Lester, John J.,	1525 State st.,	Baker, 33 Patton st.
Lewis, Arthur B.,	233 Forest Park ave.,	Merchant, 461 Main st.
Lewis, Charles C.,	192 Long Hill st.,	Hardware Merchant, 30 Lyman st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Livingston, Fred W.,	42 Alden st.,	Inspector, Stockbridge st.
Lloyd, Harry R.,	25 Vassar st.,	Editor, 381 Main st.
Lockwood, Alfred L.,	115 Tyler st.,	Cutlery Repairer, 58 Harrison ave.
Lombard, Ralph E.,	76 Magnolia ter.,	Real Estate Dealer, 31 Elm st.
Long, Arthur E.,	368 St. James ave.,	Superintendent, 390-396 Main st.
Lovejoy, Frank O.,	81 Berkshire st., I. O.,	Assistant Manager, Worcester st., I. O.
Lovett, Thomas H.,	26 Vinton st.,	Foreman, cor. Hampden and Water sts.
Ludden, George H.,	259 Massasoit st.,	Restaurant Keeper, Rockrimmon road.
Ludden, William P.,	1329 North st.,	Lunch Business, High st., Holyoke.
Lukes, Harry,	20 Jefferson ave.,	Veterinary Surgeon, Railroad row.
Lumis, Fred W.,	28 Bedford road,	Building Inspector, 44 Pynchon st.
Lyman, George M.,	34 Coleman st.,	Ice Dealer, 34 Coleman st.
Lyman, George W.,	92 Buckingham st.,	Builder, 92 Buckingham st.
Lynch, Charles E.,	Round Hill,	Merchant, 367 Main st.
Lynch, Daniel,	704 Union st.,	Teamster, 150 State st.
Lyons, Michael H.,	144 Main st., I. O.,	Merchant, 144 Main st., I. O.
Mack, Michael,	31 Sheldon st.,	Baker, 134 Main st.
Madden, Michael J.,	276 Armory st.,	Lithographer, Warwick ave.
Magazina, Jacob,	74 Ferry st.,	Baker, 74 Ferry st.
Maloney, James T.,	16 Vinton st.,	Teamster, Springfield Breweries Co.
Maloney, Michael,	96 State st.,	Contractor, Chicopee.
Mandell, George,	5 Westford Circle,	Real Estate Dealer, 5 Westford Circle.
Manning, William,	50 Fairfield st.,	Insurance Agent, 500 Main st.
Mannix, John T.,	148 Bond st.,	Chef, 266 Main st.
Mansfield, George E., Jr.,	420 Sumner ave.,	Baker, 97 Bridge st.
Mansfield, Michael J.,	135 Worcester st., I. O.,	Clerk, 146 Main st., I. O.
Mansfield, Peter H.,	117 Essex st.,	Merchant, 424 Dickinson st.
Maranville, George L.,	117 Lebanon st.,	Real Estate Dealer, 318 Main st.
Margerum, Edwin F.,	47 Pine st.,	Variety Storekeeper, 136 Walnut st.
Marsh, Arthur E.,	145 Spring st.,	Livery Stable Owner, Park st.
Marsh, Harry C.,	23 Magnolia ter.,	Clerk, 211 Main st.
Marsh, Henry D.,	9 Buckingham place,	Banker, 425-427 Main st.
Marsh, Robert P.,	145 Spring st.,	Broker, 318 Main st.
Martens, Henry,	66 Acushnet ave.,	Cigar Maker, 20 Main st.
Martin, Alfred E.,	94 Westford ave.,	Superintendent, 123 Bridge st.
May, Albert W.,	293 Belmont ave.,	Druggist, 298 Belmont ave.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Maynard, Edward W.,	855 Belmont ave.,	Merchant, 323 Bridge st.
Maynard, Everett C.,	116 Belmont ave.,	Manager, 17 Besse place.
McAuley, Frank A.,	81 Bond st.,	Armature Winder, 5 N. Main st.
McCall, Daniel F.,	150 Tenth st.,	Manager, 369 Main st.
McCann, John W.,	42 Acushnet ave.,	Lineman, 283 Worthington st.
McCarthy, Daniel E.,	583 Union st.,	Plumber, 27 East Court st.
McCarthy, Jeremiah,	11 Bond st.,	Teamster, 112 Gardner st.
McCarthy, Patrick H.,	9 Murray Hill ave.,	Broker, 332 Main st.
McCarthy, Timothy,	51 Cass st.,	Yard Foreman, cor. Lyman and Spring sts.
McCarty, Patrick J.,	588 Sumner ave.,	Commercial Traveler, 23 Cliff st., N. Y.
McCulloch, Henry B.,	38 Clifton ave.,	Clerk, N. Y., H. N. & H. Freight Depot.
McDonald, John,	N. S. Boston road,	Carpenter and Contractor, about the city.
McDonald, John, Jr.,	344 Chestnut st.,	Merchant, 340 Chestnut st.
McElwain, Charles C.,	46 Federal st.,	Candy Manufacturer, 37 Harrison ave.
McGowan, James,	128 Hampden st., I. O.,	Merchant, 41 Oak st., I. O.
McGuire, James,	319 Main st., I. O.,	Clerk, Ludlow, Mass.
McIntire, Arthur H.,	102 Hickory st.,	Assistant Foreman, Forest Park.
McIntire, Herbert W.,	49 Holyoke st.,	Horse Dealer, 61 Market st.
McKenzie, William D.,	23 Yale st.,	Builder, 23 Yale st.
McKeown, Thomas R.,	34 Allen ave.,	Manager, 150 Bridge st.
McKnight, Charles H.,	79 Riverview ter.,	Builder, 137½ State st.
McNulty, Michael H.,	328 N. Main st.,	News Dealer, 328 N. Main st.
Meacham, Edward A.,	19 Grenada ter.,	Real Estate Dealer, 318 Main st.
Meacham, Walter L.,	9 Berendo ave.,	Artist, 140 Wilbraham ave.
Merriam, Frank A.,	54 Jefferson ave.,	Clerk, not employed.
Merriam, G. Frank,	205 Florida st.,	President, Brightwood.
Merriam, Thomas D.,	43 School st.,	Clerk, 201 Worthington st.
Merriam, William C. B.,	24 Winthrop st.,	Druggist, 643 Main st.
Merry, Edward,	395 Allen st.,	Tool Maker, 18 Bridge st.
Meunier, Virginius J.,	34 Thomas st.,	Engineer, 27 Lyman st.
Milburn, Lee,	494 Belmont ave.,	Carpenter, 357 Main st.
Miles, Roger F.,	336 Chestnut st.,	Clerk, 145-147 Main st.
Millea, Francis J.,	329 Dickinson st.,	Manufacturer, 47 Taylor st.
Miller, James R.,	34 Avon place,	President, 241 Main st.
Mills, Erwin F.,	85 Elliott st.,	Not employed.
Miner, Ellis W.,	114 Calhoun st.,	Real Estate Dealer, 114 Calhoun st.
Miner, Ellis W., Jr.,	114 Calhoun st.,	Paymaster, 53 Wilbraham road.
Mitchell, John,	145 Bond st.,	Clerk, 95 Fulton st.
Mitchell, Lyman B.,	884 State st.,	Clerk, 355 Main st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Monroe, Charles E.,	164 Alden st.,	Optometrist, 374 Main st.
Moore, Harry A.,	S. S. Boston road,	Ice Dealer, S. S. Boston road.
Moreau, Charles L.,	22 Franklin st.,	Tinsmith, B. & A. R. R.
Moriarty, Eugene F.,	39 Acushnet ave.,	Soda Manufacturer, 565 Main st.
Moriarty, James Joseph,	58 Franklin st.,	Horseshoer, 18 Liberty st.
Morris, Charles H.,	119 Westford ave.,	Retired Merchant.
Morrison, Robert E.,	151 Union st.,	Printer, 213 Worthington st.
Morse, Ensign,	57 Denver st.,	Mason and Builder, 57 Denver st.
Morse, Frank R.,	31 Salem st.,	Shoe Dealer, 382 Main st.
Morse, Fred S.,	78 Bowdoin st.,	Lumber Dealer, 29 Worthington st.
Morse, Valentine B.,	170 Essex st., I. O.,	Clerk, Pine st., I. O.
Morton, William T.,	633 Worthington st.,	Teamster, 633 Worthington st.
Mosher, Julius W.,	100 Oak st.,	Not employed.
Mulligan, Charles H.,	43 Ridgewood ter.,	Retired.
Munn, Charles C.,	95 Sumner ave.,	Commercial Traveler, Thompsonville, Conn.
Munn, Clarence F.,	28 Wellesley st.,	Clerk, 500 Main st.
Munsell, Henry T.,	72 Broad st.,	Plumber, 135 Union st.
Murphy, Edward J.,	20 Byers st.,	Real Estate Dealer, 317 Main st.
Murphy, John F.,	28 Ringgold st.,	Machinist, B. & A. Shops, West Springfield.
Murphy, John T.,	54 Winthrop st.,	Clerk, 373 Main st.
Murphy, Michael H.,	64 Fremont st.,	Button Maker, ft. of Howard st.
Murphy, Timothy,	67 Linden st.,	Harness Maker, 33 Lyman st.
Murray, Charles E.,	162 Chestnut st.,	Insurance Agent, 233 Main st.
Murray, Frank A.,	71 Everett st.,	Inspector, 52 Pynchon st.
Murray, J. Frank,	61 Crystal ave.,	Superintendent, 133 State st.
Murray, John J.,	399 Central st.,	Stenographer, cor. Main and E. Court sts.
Murray, William J.,	54 Johnson st.,	Foreman, Broad cor. Hanover st.
Myrick, Herbert,	151 Bowdoin st.,	Publisher, 29 Worthington st.
Nalley, Cornelius C.,	68 Park st.,	Bartender, 545-547 Main st.
Nash, Robert F.,	N. S. Berkshire ave.,	I. O., Cost Accountant, 193 Lyman st.
Neil, George W.,	39 Acushnet ave.,	Soda Manufacturer, 565 Main st.
Nelson, Edward A.,	18 Clinton st.,	Manufacturer, East Swansey, N. H.
Nesbitt, Samuel W.,	29 Portland st.,	Foreman, 336 Birnie ave.
Newell, Harry W.,	33 Greenleaf st.,	Mechanic, 33 Greenleaf st.
Newton, Chester P.,	627 Chestnut st.,	Civil Engineer, 318 Main st.
Nichols, Arthur M.,	28 King st.,	Contractor, cor. Liberty and Cass sts.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Nicholson, Joseph,	102 Wilbraham road,	Paper Hanger, 814 State st.
Nickels, Jay W.,	974 State st.,	Banker, 6 East Court st.
Niles, Orville W.,	43 Calhoun st.,	Traveling Salesman.
Nobert, Joseph A.,	1157 North st.,	Machinist, not employed.
Noble, Preston A.,	56 Palmer ave.,	Wood Engraver, 375 Dwight st.
Nolan, John L.,	109 Greenwood st.,	Painter, 109 Greenwood st.
Noonan, Charles H.,	220 Pendleton ave.,	Ice Dealer, 220 Pendleton ave.
Nooney, Howard B.,	5 Clifton ave.,	Clerk, 811 State st.
Norris, Henry P.,	409 Union st.,	Assistant Treasurer, Cross st.
Norton, William H.,	414 N. Main st.,	Shipping Clerk, 392 Main st.
Noyes, Edward B.,	402 Central st.,	Buyer, 390-396 Main st.
Oatman, Edgar J.,	780 Chestnut st.,	Florist, Dover st.
O'Brien, Edward J.,	369 Armory st.,	Plumber, 8 Ferry st.
O'Brien, John,	156 Florence st.,	Shipping Clerk, 57 Willow st.
O'Brien, John J.,	20 Church st.,	Salesman, J. J. Bagly Co., Detroit.
O'Connell, James F.,	84 Everett st.,	Foreman, 983 Main st.
O'Connell, John J.,	406 Main st.,	Fireman, 406 Main st.
O'Connell, Michael,	44 Hampden st., I. O.,	Loom Fixer, Front st., I. O.
O'Connell, Morgan D.,	74 Everett st.,	Brick Mason, 74 Everett st.
O'Connell, William,	236 Tyler st.,	Lumber Surveyor, 850 State st.
O'Connor, Michael J.,	123 Greenwood st.,	Cigar Maker, 22 E. Court st.
O'Connor, William H.,	22 Lowell st.,	Not employed.
O'Donnell, Bartholomew J.,	85 Cass st.,	Night Watchman, 345 Main st.
O'Neil, Joseph B.,	129 Pendleton ave.,	Electrician, 538 Main st.
Osgood, Herbert L.,	198 North st.,	Claim Agent, 5 N. Main st.
Otto, John,	61 Sheldon st.,	Painter, 61 Sheldon st.
Otto, John C.,	38 Greenleaf st.,	Printer, 86 Worthington st.
Owen, Frank E.,	S. S. Berkshire st., I. O.,	Carpenter, Berkshire st., cor. Jasper st., I. O.
Owens, Frank J.,	148 Chestnut st.,	Insurance Clerk, 500 Main st.
Page, Frank H.,	116 Ingersoll Grove,	Manufacturer, 48 Hampden st.
Pardoe, William A.,	9 Calhoun st.,	Designer, 486 Main st.
Parker, Frederick D.,	443 Liberty st.,	Driver, 130 Lyman st.
Parker, Wallace A.,	444 Central st.,	Foreman, 283 Worthington st.
Parrish, Walter A.,	45 Locust st.,	Auditor, 274 Main st.
Partridge, Frederick J.,	45 Armory st.,	Order Clerk, Warwick ave.
Patrell, Oliver L.,	390 Hancock st.,	Baker, 398 Hancock st.
Patten, Asa K., Jr.,	100 Pearl st.,	Retired.
Pauli, George W.,	11 Myrtle st.,	Not employed.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Pease, Charles L.,	59 Tyler st.,	Milk Peddler, 569 Main st.
Pease, Clarence A.,	332 White st.,	Meat Cutter, 813 State st.
Pease, Edward W.,	409 Oakland st.,	Contractor, 409 Oakland st.
Pease, Frank W.,	36 Maple st.,	Furniture Salesman, 349-359 Main st.
Pease, Raymond W.,	26 Allen st.,	Foreman, 137½ State st.
Peirce, George W.,	240 North st.,	Paint Mixer, Fisk ave.
Pelkey, George Albert,	363 N. Main st.,	Painter, 363 N. Main st.
Pepper, Robert C.,	42 Sumner ave.,	Lineman, 283 Worthington st.
Perkins, Arthur E.,	69 Union st.,	Loan Agent, 69 Union st.
Perkins, Charles E.,	34 Hebron st.,	Photographer, 86 Worthington st.
Perry, George T.,	656 Chestnut st.,	Funeral Director, 15 Clinton st.
Peters, Charles W.,	166 Union st.,	Mechanic, 293 Main st.
Phelan, Edward J.,	162 Eastern ave.,	Dealer in Barrels, 162 Eastern ave.
Phillips, Ellsworth,	61 Northampton ave.,	Brick Maker, Willimansett, Mass.
Phillips, George T.,	62 Acushnet ave.,	Pistol Maker, Stockbridge st.
Pierce, George B.,	52 Marble st.,	Buyer, 436-440 Main st.
Pike, Harold L.,	28 Eagle st.,	Advertising Agent, 29 Worthington st.
Pirnie, George,	112 Magnolia ter.,	Manufacturer, 112 Magnolia ter.
Plummer, John D.,	334 St. James ave.,	Manager, 292 Main st.
Pool, James C.,	12 Belgrade place,	Designer, 29 Worthington st.
Pool, Thomas,	60 Lexington ave.,	Wire Weaver, Heywood and Warwick ave.
Porter, Alfred N.,	55 Ringgold st.,	Paper Cutter, 338 Worthington st.
Potter, Charles W.,	414 Main st.,	Cabinet Maker, 351 Main st.
Powell, Benjamin,	109 Allen st.,	Manufacturer, 109 Allen st.
Powell, Thomas D.,	86 Spring st.,	Music Teacher.
Powell, William J.,	121 Howard st.,	Machinist, not employed.
Powers, Edward S.,	453 Sumner ave.,	Real Estate Broker, 474 Mill st.
Powers, Frank B.,	122 Pearl st.,	Manufacturer, 231 Main st.
Powers, Fred H.,	86 Westford ave.,	Superintendent, 138 Wilbraham ave.
Powers, Lewis J., Jr.,	302 Union st.,	Paper Manufacturer, 149 Wason ave.
Pratt, Austin J.,	25 Catharine st.,	Plumber, 19 Wilbraham road.
Price, William R.,	15 Mattoon st.,	Traveling Salesman, N. Y. Firm.
Proctor, Charles B.,	257 Ft. Pleasant ave.,	Real Estate Dealer, 476 Main st.
Pulcifer, Irving S.,	21 Blake Hill,	Assistant Treasurer, 500 Main st.
Pulcifer, William P.,	49 Holyoke st.,	Broker, 49 Holyoke st.
Punderson, Henry F.,	21 Riverview st.,	Secretary, 138 State st.
Putnam, Merton J.,	36 Winthrop st.,	Printer, ft. Howard st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Quimby, Irving A.,	30 Pearl st.,	Dealer in China and Glassware, 9 Hampden st.
Quinlivan, Thomas P.,	417 Chestnut st.,	Section Foreman, Boston & Maine R. R.
Quinn, Timothy,	14 Prospect st.,	Tinner, 14 Prospect st.
Quirk, Dennis J.,	122 Magazine st.,	Plumber, 328 Dwight st.
Ransehousen, Edward B.,	37 Sherman st.,	Insurance Agent, 423 Main st.
Rathbun, Leonard W.,	107 Northampton ave.,	Traveling Salesman, 201-203 Worthington st.
Rathbun, Ralph A.,	119 Westford ave.,	Teller, 407 Main st.
Rayner, William T.,	513 Belmont ave.,	Treasurer, 193 Lyman st.
Read, Stacey G.,	397 Eastern ave.,	Electrician, 3 Post Office sq.
Readio, George U.,	58 Pearl st.,	Merchant, 34-40 Sanford st.
Reardon, James W.,	42 Alfred st.,	Car Inspector, B. & M. Railroad
Reed, Arthur B.,	159 Princeton st.,	Secretary, Worcester st., I. O.
Remillard, Camille R.,	25 Huntington st.,	Lunch Room, Holyoke.
Remington, Almon E.,	76 Mill st.,	Cashier, 399 Main st.
Remington, Philip H.,	198 Florida st.,	Treasurer, 318 Main st.
Remkus, Edwin G.,	27 Westernview st.,	Insurance Agent, 68 Bridge st.
Rice, Arthur C.,	47 Grant st.,	Tool Maker, 33 Lyman st.
Rice, Clifford F.,	562 N. Main st.,	Superintendent, Wason ave.
Rice, Leslie E.,	207 Pine st.,	Machinist, Worcester st, I. O.
Rich, Edward O.,	27 Clifford st.,	Bicycle Repairer, 72 Dwight st.
Rich, Henry F.,	80 Buckingham st.,	Clerk, 538-540 Main st.
Richards, Edward N.,	27 Grenada ter.,	Musician, 27 Grenada ter.
Richards, Fred J.,	417 Belmont ave.,	Dealer in Cotton Waste, South Main st.
Richards, Harold H.,	43 Massachusetts ave.,	Map Publisher, 43 Massachusetts ave.
Richards, Louis H.,	67 Euclid ave.,	Manager, cor. Hillman and Dwight sts.
Richardson, Arthur E.,	49 N. Main st.,	Clerk, 357 Main st.
Richmond, Edward A.,	705 Belmont ave.,	Druggist, 643 Main st.
Richter, Bernhard,	108 Yale st.,	Cabinet Maker, 222 State st.
Riga, Joseph G.,	28 Leyfred ter.,	Importer, 28 Leyfred ter.
Ripley, James H.,	65 Ingersoll Grove,	Retired.
Ripley, Elon V. N.,	64 Church st.,	Traveling Salesman, 64 Church st.
Rivard, Frederick A.,	94 Elliott st.,	Printer, 292 Main st.
Robbie, Kenneth,	125 Magnolia ter.,	Secretary, 166 State st.
Robbins, Frank A.,	33 Mulberry st.,	Jeweler, 123-125 State st.
Roberts, Clinton L.,	257 Dickinson st.,	Merchant, 2 Wilmont st.
Roberts, John W.,	33 Kenwood Park,	Cashier, 29 Worthington st.
Robinson, George E.,	46 Temple st.,	Clerk, 48 Harrison ave.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Robinson, William A. H.,	44 Byers st.,	Jeweler, 331 Main st.
Robson, Harry C.,	96 Byers st.,	Traveling Salesman, Beacon Falls Rubber Shoe Co.
Roche, William J.,	51 Franklin st.,	Machinist, 57 Franklin st.
Rogers, Arthur H.,	22 Temple st.,	Manufacturer, 293 Main st.
Rogers, William A.,	110 Franklin st.,	Laborer, all about the city.
Rollins, Harvey E.,	12 Osgood st.,	Clerk, 144 Main st.
Rolhauser, George F.,	75 Elm st.,	Contractor, Stockbridge st.
Rood, Fred K.,	700 Chestnut st.,	Merchant, 144 Main st.
Root, Cassius D.,	323 Central st.,	Commercial Traveler, Boston, Mass.
Ross, Albert J.,	66 Cherry st.,	Foreman, 36 Lyman st.
Ross, Alfred M.,	22 Wellesley st.,	Dentist, 285 Main st.
Rowley, Arthur M.,	S. S. Crescent ave.,	Clerk, 10 Broadway.
Royce, Charles A.,	29 Edwards st.,	Proprietor, 21-25 Clinton st.
Royce, Harrison G.,	412 St. James ave.,	Clerk, 139 State st.
Royce, Henry J.,	412 St. James ave.,	Clerk, 168 Birnie ave.
Ruggles, Elmer E.,	69 Union st.,	Clerk, 345 Main st.
Ruggles, Frank H.,	131 Yale st.,	Retired.
Rumrill, Herbert E.,	70 Massachusetts ave.,	Manager, 482 Main st.
Rush, William,	575 Berkshire ave., I. O.,	Real Estate Dealer, 575 Berkshire ave., I. O.
Russell, Charles F.,	48 Greenwood st.,	Merchant, 103 Main st.
Russell, Charles P.,	99 Alden st.,	Machinist, 47 Taylor st.
Russell, Napoleon,	191 Springfield st.,	Real Estate Dealer, 300 Birnie ave.
Russell, Patrick W.,	33 Broad st.,	Meat Market and Groceries, 822-824 Main st.
Russell, Thomas F.,	154 Chestnut st.,	Cabinet Maker, 850 State st.
Ryan, Charles V.,	664 Chestnut st.,	Druggist, 161 Main st.
Ryan, James M.,	353 Armory st.,	Stock Clerk, 170 Bridge st.
Ryan, William E.,	805 Main st.,	Stenographer, 500 Main st.
Sackett, Frank H.,	862 Worthington st.,	Contractor, 831 Worthington st.
Sackett, Fred E.,	844 Worthington st.,	Contractor, 844 Worthington st.
Sackett, James C.,	156 Spring st.,	Superintendent, Oak Grove Cemetery.
Sackett, Lorenzo D.,	12 Hancock st.,	Traveling Salesman, Troy, N. Y.
Sadler, William L.,	48 Magnolia ter.,	Druggist, 530 Main st.
Safford, Ralph K.,	102 School st.,	Broker, 274 Main st.
Samble, Nicholas T.,	58 Huntington st.,	Printer, 86 Worthington st.
Samble, William Edward, Jr.,	5 Logan st.,	Printer, 381 Main st.
Samble, William Edward, Sr.,	5 Logan st.,	Printer, 381 Main st.
Sample, Frank L.,	15 Temple st.,	Train Master, B. & A. R. R.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Sampson, Frederick H.,	61 Sargeant st.,	Not employed.
Sanderson, William E.,	80 Hyde ave.,	Purchasing Agent, Wason ave.
Sapiro, Max J.,	534 Chestnut st.,	Rag Dealer, 134 Ferry st.
Sargeant, William H.,	169 Forest Park ave.,	Insurance Agent, 500 Main st.
Savage, Walter A.,	78 Whittier ave.,	Merchant, 412 Main st.
Sawtell, J: Otis,	162 Westminster st.,	Merchant, 478 Main st.
Schelb, Justus A.,	346 Liberty st.,	Chef, 215 Worthington st.
Scheuing, Louis C.,	320 Union st.,	Manufacturer, Orleans st.
Schnetzer, George W.,	47 Calhoun st.,	Baker, 4 Main st.
Schofield, Harry,	512 Chestnut st.,	Foreman, 405 Dwight st.
Schultz, August,	148 King st.,	Lithographer, 140 Wilbraham ave.
Scott, E. Clarence,	691 State st.,	Benchman, 53 Wilbraham road.
Scott, Edward R.,	349 Walnut st.,	Milk Peddler, 104 Alden st.
Scott, Lorenzo,	366 Sumner ave.,	Assistant Manager, 74 State st.
Severance, John N.,	1 Pearl st. place,	Master Mechanic, Milton Bradley.
Severy, William G.,	234 North st.,	Bookkeeper, 118 Fisk ave.
Shackley, George William,	40 Spring st.,	Polisher, Stockbridge st.
Shaftoe, James T.,	16 Springfield st.,	Optician, 62 Main st.
Shaw, Harry G.,	350 White st.,	Corset Cutter, 53 Hillman st.
Shaw, J. Wesley,	371 St. James ave.,	Dentist, 318 Main st.
Shaw, John L.,	95 High st.,	Advertising Agent, 381 Main st.
Shea, Jeremiah L.,	14 Columbia ter.,	Builder, 14 Columbia ter.
Shea, Patrick J.,	15 Whitney ave.,	Plumber, 524 Worthington st.
Shea, Patrick J.,	49 Alden st.,	Mason, Bernard Radding.
Sheckler, John A.,	760 Chestnut st.,	Horse Dealer, 10 Franklin st.
Sheehan, Patrick,	401 Chestnut st.,	Brakeman, Boston & Maine R. R.
Sheehan, Paul,	45 Hawthorne st.,	Cigar Maker, 309 Main st.
Sheehan, Thomas E.,	45 Linden st.,	Merchant, 274 Main st.
Sheehan, Thomas F.,	114 Armory st.,	Bookkeeper, 535 Main st.
Sheldon, William O.,	129 Westminster st.,	Marketman, 132 State st.
Shepardson, Perry L.,	24 Calhoun st.,	Shipping Clerk, 345 Main st.
Shepherd, George W.,	17 Ormond st.,	Dealer in Butter and Eggs, 17 Ormond st.
Sherburne, James S.,	30 Roseland st.,	Newspaper Man, 305 Worthington st.
Shields, William,	1114 State st.,	Draughtsman, 837 State st.
Short, Jonathan,	26 Eagle st.,	Building Contractor, 26 Eagle st.
Shuart, William H.,	27 Mulberry st.,	Manufacturer, Bridge st., West Springfield.
Shumway, Frederick A.,	48 Johnson st.,	Commercial Traveler, 41 Thompkins st., N. Y.
Simons, John T.,	154 Alden st.,	Superintendent, 287 Hickory st.
Simons, William C.,	200 Maple st.,	Broker and Banker, 381 Main st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Sinclair, Frederick O.,	14 Orleans st.,	Not employed.
Skinner, George B.,	80 Northampton ave.,	Druggist, Ludlow, Mass.
Skinner, Thomas J.,	180 Union st.,	Expressman, Union Station.
Sleigh, William B.,	64 Westford ave.,	Manager, 48 Harrison ave.
Smith, Dearing A.,	161 Alden st.,	Teamster, not employed.
Smith, Elmer H.,	82 Boylston st.,	Master and Pilot of Steamboats, Connecticut River.
Smith, John D.,	35 Dartmouth st.,	Druggist, 271 Main st.
Smith, Joseph,	124 Byers st.,	Commercial Traveler, Warehouse Point Distillery.
Snow, Emmons E.,	754 Chestnut st.,	Printer, 29 Worthington st.
Somes, J. Kirk,	184 Maple st.,	Collector, all about the city.
Spaight, Daniel,	19 Winthrop st.,	Wholesale Liquor Dealer, 188 Main st.
Spencer, Frank S.,	102 Yale st.,	Foreman, 850 State st.
Spencer, Seymour A.,	30 Commonwealth ave.,	Purchasing Agent, 60 Hampden st.
Spicer, Ernest F.,	10 Chestnut st.,	Insurance Agent, 25 Harrison ave.
Stauffer, Daniel H.,	57 Governor st.,	Stamp Cutter, 65 Governor st.
Stacy, Richard H.,	11 Kenwood Park,	Machinist, 41-45 Taylor st.
Stagnaro, Francesco,	38 Howard st.,	Fruit Dealer, 467 Main st.
Stebbins, George M.,	41 Churchill st.,	Commercial Traveler, 41 Churchill st.
Stedman, Fred C.,	104 Belmont ave.,	Insurance Agent, 29 Worthington st.
Steele, Percy D.,	32 Chase ave.,	Florist, 137 State st.
Stevenson, William M.,	88 Hampden st., I. O.,	Manager, Front st., I. O.
St. Germain, Albert,	31 Central st.,	Barber, Besse place.
Stibbs, William E.,	31 Westford ave.,	Traveling Salesman, T. G. Plant Co., Boston.
Still, Warren A.,	10 Birnie ave.,	Machinist, 88 Birnie ave.
St. Jacques, Nelson E.,	14 Howard st.,	Upholsterer, 2 Park st.
St. John, Peter,	27 Rutledge ave.,	Barber, 8 Sanford st.
Stocker, Arthur B.,	782 Belmont ave.,	City Editor, 292 Main st.
Stone, John N.,	192 Pearl st.,	At home.
Stone, William C.,	21 Princeton st.,	Clerk, City Library.
Stowell, Henry A.,	65 Oak Grove ave.,	Foreman, Willow st.
Streeter, George W.,	10 Chestnut st.,	Undertaker, 190 State st.
Strout, Fred P.,	565 Union st.,	Bookkeeper, 346-348 Main st.
Sturgis, Frank W.,	319 State st.,	Purchasing Agent, Ludlow, Mass.
Sturtevant, Fayette L.,	849 Main st.,	Buyer, 390-396 Main st.
Sullivan, James A.,	57 Everett st.,	Manufacturer, 220 Franklin st.
Sullivan, James E.,	55 Maplewood ter.,	Editor, 86 Worthington st.
Sullivan, John D.,	28 Alden st.,	Mason, 16 Taylor st.
Sullivan, John F.,	28 Roseland st.,	Sporting Editor, 292 Main st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Sunter, Alexander E.,	77 Alexander st.,	Druggist, 438 Chestnut st.
Sutton, Edward O.,	12 Ingraham ave.,	Insurance, 500 Main st.
Sweet, Herbert S.,	67 Bliss st.,	Metal Worker, 193 Lyman st.
Swift, Samuel C.,	20 Princeton st.,	Coat and Apron Supply, 20 Princeton st.
Swords, Peter J.,	161 Hancock st.,	Plumber, 161 Hancock st.
Symington, William H.,	54 Winthrop st.,	Cigar Maker, 46-48 Dwight st.
Tait, George G.,	37 Vinton st.,	Ice Cream Manufacturer, 37 Vinton st.
Tapley, William W.,	266 Union st.,	Manufacturer, Cross st.
Tarbell, Fred E.,	67 Acushnet ave.,	Machinist, Stockbridge st.
Taylor, Albert W.,	219 N. Main st.,	Druggist, 326 N. Main st.
Taylor, Crosland, 2d,	174 King st.,	Superintendent, 196 Worthington st.
Taylor, Edwin L.,	617½ Main st.,	Photographer, 617½ Main st.
Taylor, George P.,	165 Princeton st.,	Merchant, Lyman st.
Taylor, Patrick,	22 Cass st.,	Motorman, 5 N. Main st.
Tehan, James H.,	108 Johnson st.,	Manager, 369 Main st.
Tehan, Thomas W.,	27 Ashley st.,	Deliveryman, 349-359 Main st.
Terrell, Charles B.,	78 Bliss st.,	Laundry Business, 78 Bliss st.
Thacker, George,	74 Alexander st.,	Clerk, 357 Main st.
Thacker, William R.,	42 Chase ave.,	Paper Dealer, 265 Bridge st.
Thayer, Harrison C.,	14 Spruce st.,	Bookkeeper, 5 Randall ave.
Thompson, Charles G.,	805 White st.,	Dealer in Real Estate, 805 White st.
Thompson, Clayton N.,	7 Sorrento ave.,	Draughtsman, 65 Main st., Chicopee Falls.
Titus, Charles E.,	12 Harrison ave.,	Traveling Salesman, 12 Harrison ave.
Tobey, Frank G.,	46 School st.,	Retired.
Toomey, James F.,	20 Cleveland st.,	Pressman, Warwick ave.
Toomey, James J.,	23 Middlesex st.,	Foreman, 837 State st.
Toomey, Thomas D.,	89 Linden st.,	Automobile Painter, Chicopee Falls.
Tower, Frank W.,	63 Spring st.,	Plumber Inspector, 44 Pynchon st.
Towne, Willis L.,	10 Chestnut st.,	Photographer, 342 Main st.
Tracy, Wilbur F.,	N. S. Denver st.,	Machinist, 837 State st.
Trask, Harry B.,	114 Yale st.,	Salesman, 226 Main st.
True, Harry P.,	29 Spring st.,	Jeweler, 408 Main st.
Truesdell, William E.,	74 Kenwood Park,	Merchant, 577 Main st.
Tucker, Andrew J.,	254 Pearl st.,	President, Heywood ave.
Turner, George R.,	8 Clifton ave.,	Wagon Maker, cor. Dale st. and Hubbard ave.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Underhill, Arthur W.,	83 Ingersoll Grove,	Manufacturer, 46 Harrison ave.
Vaile, William M.,	132 Grover st.,	Storekeeper, 795 Liberty st.
Van Norman, Charles E.,	98 Yale st.,	Treasurer, 160 Wilbraham ave.
Van Norman, George H.,	97 Clarendon st.,	Photographer, Railroad ter.
Vaughan, Ellwood B.,	28 Whittier ave.,	Contractor, South Main st.
Veley, George W.,	79 Montrose st.,	Construction Engineer, East Springfield.
Vester, George F., Jr.,	15 Winthrop st.,	Merchant Tailor, 389 Main st.
Wallace, William W.,	190 Bowdoin st.,	Musician, 190 Bowdoin st.
Walls, Charles H.,	63 Morris st.,	Carpenter and Builder, 89 Morris st.
Walsh, Frank T.,	54 Merwin st.,	Bookkeeper, 271 Bridge st.
Walsh, John J.,	93½ Bond st.,	Brick Mason, 93½ Bond st.
Walsh, Thomas P.,	665 Belmont ave.,	Insurance Agent, 318 Main st.
Walters, Arthur E.,	41 Keith st.,	Grocer, 365 Belmont ave.
Warner, Dwight H.,	279 Orange st.,	Carpenter, Oakland st.
Warner, Frank A.,	1470 State st.,	Parcel Delivery, 1470 State st.
Wadleigh, William L.,	172 Oak st., I. O.,	Superintendent, 156 Wason ave.
Wallace, Andrew B., Jr.,	47 Ridgewood ter.,	Merchant, 390-396 Main st.
Warner, Silas D.,	1469 State st.,	Farmer, 1469 State st.
Warner, Stephen O.,	317 Orange st.,	Carpenter, 35 Hiawatha st.
Warriner, Horace A.,	28 Wilmont st.,	Copy Editor, 305 Worthington st.
Washburn, Kirk N.,	53 Dartmouth st.,	Publisher, 29 Worthington st.
Webb, George S.,	754 Chestnut st.,	Electrician, 5 N. Main st.
Webster, Eugene A.,	314 Union st.,	Druggist, 530 Main st.
Weeks, William I.,	304 Central st.,	Manager, 488 Main st.
Welch, Thomas J.,	90 Franklin st.,	Electrotyper, 132 Dwight st.
Welch, Thomas J.,	367½ Chestnut st.,	Pressman, 214 Birnie ave.
Wells, Fred U.,	17 Jefferson ave.,	Laundry Business, 293 Main st.
Wesson, Frank H.,	146 Long Hill st.,	Manufacturer, Stockbridge st.
Wesson, Harold,	220 Maple st.,	Manufacturer, Stockbridge st.
West, Louis W.,	507 Dickinson st.,	Filer, Stockbridge st.
Wharfield, W. Fayette,	40 Church st.,	Accountant, Front st., Mittineague.
Wheat, Harold A.,	65 Dartmouth st.,	Storekeeper, 349-359 Main st.
Wheeler, Frank E.,	29 Washington road,	Stock Broker, 318 Main st.
Wheeler, Fred N.,	141 Wilbraham road,	Druggist, 802 State st.
Wheeler, Harold W.,	256 White st.,	Foreman, 43 Cross st.
Whipple, Fred C.,	58 Pearl st.,	Commercial Traveler.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Whipple, Julius H.,	48 Pearl st.,	Broker, 15 Elm st.
Whitbeck, Arthur A.,	759 Belmont ave.,	Printer, 29 Worthington st.
Whitcomb, Henry J.,	25 Dwight st.,	Tinsmith, 27 Dwight st.
Whitcomb, Joseph S.,	87 Park st.,	Stove Dealer, 27 Dwight st.
White, Charles O.,	91 Cambridge st.,	Foreman, 43 Lyman st.
White, Charles T.,	697 Belmont ave.,	Civil Engineer, 17 Hampden st.
White, Charles W.,	683 Main st.,	Insurance Agent, 500 Main st.
White, Frank K.,	35 Hampden st., I. O.,	Foreman, Front st., I. O.
White, John,	14 Murray Hill ave.,	Coppersmith, 200 Franklin st.
White, Leverett E.,	53 Pomona st.,	Foreman, 157 Dwight st.
White, Luke B.,	73 Beaumont st.,	Commercial Traveler, 14 Lyman st.
White, Napoleon,	26 Besse place,	Barber, 21 Besse place.
Whitney, Charles B.,	22 Churchill st.,	Treasurer, 43 Lyman st.
Widlansky, Simon,	1082 North st.,	Merchant, 27 Carew st.
Wight, Ralph W.,	87 Hampden st., I. O.,	Treasurer, Pine st., I. O.
Wilder, George T.,	130 Carew st.,	Not employed.
Willard, Walter H.,	261 North st.,	Foreman, 214 Birnie ave.
Williams, Edward C.,	42 Alderman st.,	Proprietor, 326 Dwight st.
Williams, Ellery G.,	646 Main st.,	Foreman, 130 Birnie ave.
Williams, Henry J.,	225 Belmont ave.,	Chemist, Hanover st.
Wilson, Henry J.,	86 Adams st.,	Baker, 546 Main st.
Winans, Wilbur N.,	22 Chase ave.,	Manager, 53 Lyman st.
Wing, Cara M.,	24 Hawthorne st.,	Agent, 123 Florence st.
Wing, Leon M.,	24 Hawthorne st.,	Sign Painter, 275 Main st.
Winitsky, Harry,	17 Morgan st.,	Peddler, 17 Morgan st.
Winter, D. Raymond,	26 Besse place,	Bookkeeper, ft. of Charles st.
Wood, Lorrin S.,	113 High st.,	Carpenter and Builder, 14 Stockbridge st.
Wood, Robert F.,	105 Princeton st.,	Editor, 381 Main st.
Woodward, Frank A.,	60 Orleans st.,	Painter and Decorator, 716 Main st.
Woodbury, Milo K.,	672 Chestnut st.,	Merchant, 144 Main st.
Woods, Edward W.,	461 Central st.,	Mailing Clerk, 29 Worthington st.
Woods, John G.,	62 Yale st.,	Clerk, 62 Yale st.
Woodward, Louis B.,	99 Euclid ave.,	Buyer, 411 Main st.
Woodworth, Louis B.,	20 Winthrop st.,	Barber, 17½ Harrison ave.
Work, Rufus T.,	39 Mapledell st.,	Merchant, 813-815 State st.
Worthington, Albert E.,	229 N. Main st.,	Assistant Manager, Holyoke, Mass.
Wright, Charles A.,	820 State st.,	Tool Maker, 837 State st.
Wright, Charles A.,	45 Bay st.,	Grocer, 473 State st.
Wright, Charles A. L.,	28 McKnight st.,	Civil Engineer, 123 Bridge st.
Wright, Frederick E.,	115 Wilbraham road,	Commercial Traveler, 201-203 Worthington st.

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NAME.	RESIDENCE.	PLACE OF BUSINESS OR OCCUPATION.
Wright, Frederick M.,	115 Wilbraham road,	Shipping Clerk, 53 Wilbraham road.
Wright, Harry A.,	95 Ingersoll Grove,	Corset Manufacturer, Worcester, Mass.
Wright, Henry S.,	18 Donald st.,	Machinist, 65 Main st., Chicopee Falls.
Wright, James F.,	47 Calhoun st.,	Assistant Foreman, 292 Main st.
Wuterich, George W.,	106 Grenada ter.,	Shoe Dealer, 364 Main st.
Wyckoff, Richard T.,	145 Harvard st.,	Steam Fitter, 145 Worthington st.
Yarsley, Thomas P.,	47 Revere st.,	Machinist, 65 Main st., Chicopee Falls.
Yerrall, George R.,	88 Maplewood ter.,	Treasurer, Granite Building, Main st.
York, S. LeRoy,	58 Pearl st.,	Stationer, 230 Worthington st.
Young, Ernest F.,	53 Jefferson ave.,	Assistant Engineer, 123 Bridge st.
Young, Eugene,	68 Euclid ave.,	Engraver, 68 Euclid ave.
Young, Oscar,	72 Acushnet ave.,	Engraver, Stockbridge st.

CITY OF SPRINGFIELD, MAY 20, 1912.

The foregoing is a list of jurors prepared for the City of Springfield under the provisions of law applicable thereto.

O. K. MERRILL,
W. W. BARTLETT,
F. W. BRENNAN,
E. A. NEWELL,
Registrars of Voters.

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CITY PROPERTY.

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REPORT OF THE

COMMITTEE ON CITY PROPERTY.

SPRINGFIELD, MASS., December 23, 1912.

To the City Council of the City of Springfield.

GENTLEMEN:—The City Property Committee respectfully submits the following report:—

NEW BUILDINGS.

During the present year the Sumner Avenue School, a ten-room with a large assembly hall, has been completed and partly occupied. An addition to Central Street School is now completed and ready for occupancy. This building has one manual training room, one cooking room, and one class room.

ALTERATIONS AND REPAIRS.

This year three unfinished rooms on the third floor of Chestnut Street School have been finished and are now used for music, sewing, and cooking rooms. Alterations were made at the Indian Orchard Myrtle Street School, and a cooking room finished. Changes in Forest Park School and Homer Street School were made by removing partitions, etc. Two large class rooms at Forest Park School were finished, and one large class room at Homer Street School. Additional ventilation has been installed in the gymnasium at Technical High School, and in the sanitaries at Jefferson Avenue School. Extra sanitary closets were installed at the Homer Street School and Indian Orchard Main Street School. One master clock

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and twenty-two secondary clocks have been installed at Forest Park School, and are giving perfect satisfaction.

Metal ceilings were placed in several buildings at a cost of $1,100, and approximately $3,000 was expended for interior tinting and painting. All necessary repairs were made and the buildings are now in good condition.

AUTOMATIC FURNACES AND HEATING.

The third boiler at Central High School was equipped with an automatic stoker and furnace. The Buckingham School heating system has been changed from hot air furnace heating to steam. A new boiler and an entire steam heating system has been installed. The heating system of Chestnut Street School has been equipped with a vacuum pump and air line condensers to further the efficiency of the system of heating and to economize in fuel.

By request of this Committee, the School Committee, through Superintendent J. H. Van Sickle, submitted a report of the needs of the School Department for the present and future, and this Committee would urge the immediate necessity of the incoming Committee acting upon this report submitted.

SANITARY CONDITIONS.

Owing to the enforcement of the eight-hour law, there was some criticism of the care of school buildings early in this year. The Committee met this condition with the placing of extra help in the buildings. This, with the using of floor dressing upon the floors, will make the class rooms in a very satisfactory condition.

HIGH SCHOOL OF COMMERCE.

This Committee at the beginning of the year took up the matter of a location for the High School of Commerce and has

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selected the so-called Olivet Church site on State street, and would respectfully urge the incoming City Council to take as early action as possible to acquire this land and make an appropriation for same so that there will be no delay in having this much needed school building ready for use at the earliest date.

An inventory of city property in possession of the City November 30, 1912, is appended hereto:—

BIRNIE AVENUE EXTENSION.		
Land,		$8,950 00
BOARD OF HEALTH.		
Hospital for Contagious Diseases, land and equipment, State street,	$50,000 00	
Dumping grounds, West street,	19,000 00	
Equipment of laboratory for milk inspection,	1,200 00	
Office supplies,	130 00	
Disinfectants,	85 00	
Medical inspection of schools, stationery,	75 00	
Swabs, sputum, and typhoid fever outfits,	50 00	
		$70,540 00
ENGINEERING DEPARTMENT.		
Office furniture, including card index cabinets,	$450 00	
Books,	240 00	
Six transit instruments,	600 00	
Brunton pocket transit, Abney level and Gurley's hand level,	50 00	
Two leveling instruments,	170 00	
Leveling rods, poles, and hatchets,	100 00	
Large draughting table and plan cabinet,	250 00	
Draughting instruments and office supplies,	280 00	
Two electric fans,	37 00	
Self-recording rain gauge,	100 00	
Steel tapes,	60 00	
Amount carried forward,	$2,337 00	

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Amount brought forward,	$2,337 00	
Cement testing equipment,	50 00	
Typewriter,	60 00	
Photographic apparatus,	150 00	
Blue printing apparatus,	95 00	
		$2,692 00

FIRE DEPARTMENT.	Land.	Buildings.	Equipment.	Total.
Armory Street	$1,200 00	$16,000 00	$7,236 00	$24,436 00
Boston Road		200 00	300 00	500 00
Chestnut Street	10,000 00	14,500 00	12,400 00	36,900 00
Court Street	35,000 00	101,500 00	45,600 00	182,100 00
Hooker Street	3,900 00	20,400 00	15,700 00	40,000 00
Indian Orchard	1,200 00	16,000 00	8,175 00	25,375 00
Margaret Street	2,000 00	25,500 00	11,850 00	39,350 00
Mill Street	2,000 00	16,500 00	14,500 00	33,000 00
Mill River Lane	300 00	2,000 00	1,300 00	3,600 00
North Street	4,000 00	58,000 00	15,000 00	77,000 00
Oakland Street	2,000 00	11,000 00	13,000 00	26,000 00
Pine Street	2,500 00	35,000 00	20,900 00	58,400 00
Plainfield Street	1,200 00	10,500 00	3,017 00	14,717 00
Walnut Street	3,500 00	17,500 00	15,900 00	36,900 00
Winchester Square	7,000 00	18,000 00	17,500 00	42,500 00
Fire Alarm Service			112,400 00	112,400 00
	$75,800 00	$362,600 00	$314,778 00	$753,178 00

FORESTRY DEPARTMENT.

Forestry tools on hand, Nov. 30, 1912,	$1,721 99	
Machinery and tools for insect work,	2,361 99	
		$4,083 98
Miscellaneous property:—		
Real estate at 107 Pecousic avenue,	$4,500 00	
Buildings on the above,	14,250 00	
Office furniture at 111 Bridge street,	73 00	
Wall case in Water Department building,	22 50	
Hay and grain at Pecousic avenue,	170 00	
Barn fixtures,	18 00	
Gray mare,	150 00	
Street signs, fixtures, etc.,	300 00	
Nursery stock at foot of Magnolia terrace,	200 00	
		19,683 50
		$23,767 48

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MISCELLANEOUS.

Rifle range, land, ...	$8,750 00		
Rifle range, buildings and target, ...	13,404 00		
		$22,154 00	
Naval battalion, ...		100 00	
Bath houses, North End and Watershops,		200 00	
Burial lot, Peabody cemetery,.....		50 00	
Precinct railings, and ballot counters,....		1,375 00	
Ballot boxes, ...		1,050 00	
Type, cases, etc., in possession of city printer, ...		1,250 00	
			$26,179 00

MUNICIPAL BUILDING—PYNCHON STREET.

Building, Land,	Old Pynchon Street School.		
Equipping building for city offices,.....		$3,883 00	
Furniture:—			
Assessors, ...	$2,593 00		
Auditor, ...	1,000 00		
Board of Health, ...	400 00		
City Clerk, ...	1,200 00		
City Collector, ...	1,228 00		
City Council rooms, ...	900 00		
City Property Committee,.	50 00		
City Treasurer, ...	1,450 00		
Mayor, ...	500 00		
Messenger, ...	165 00		
Overseers of the Poor,....	925 70		
Sealer of Weights and Measures, including equipment (office in Water Department building), ..	375 00		
Street lighting, ...	80 00		
License Commission, furniture in Whitney building,	250 00		
Amounts carried forward,	$11,116 70	$3,883 00	

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Amounts brought forward,	$11,116 70	$3,883 00	
Building Commissioners' Department, furniture in room in Odd Fellows' building,	460 00		
		11,576 70	
			$15,459 70

MUNICIPAL GROUP—COURT STREET.

Land, Court and Pynchon streets, site of old City Hall, and Police and Fire stations, taken for site of new Municipal buildings,		$149,000 00	
Expended for new Municipal Group:—			
Land,	$170,000 00		
Buildings to date,	932,699 55		
		1,102,699 55	
			$1,251,699 55

NORTH STREET EXTENSION.

Land and buildings,			$185,914 00

PAUPER DEPARTMENT.

City farm, almshouse, and old infirmary,		$61,200 00	
Almshouse property,		15,000 00	
Smallpox hospital and land,		3,000 00	
Infirmary building, occupied by Board of Health,		9,500 00	
Almshouse:—			
Furniture, fixtures, and farm tools,	$7,869 95		
Provisions and supplies,	7,665 88		
Horses, cows, and other live stock,	2,863 00		
		18,398 83	
Hospital,		36,470 00	
Wayfarers' Lodge,		500 00	
Fixtures,	$903 25		
Supplies,	42 00		
Wood,	204 75		
		1,150 00	
			$145,218 83

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POLICE DEPARTMENT.

Court street property, ...		$20,000 00
Court street building, ...		116,000 00
Indian Orchard property and building,...		4,000 00
Police signal system, ...		12,000 00
Furniture, equipment, etc.:—		
Commissioners' office, ...	$148 00	
Chief's office, ...	244 50	
Clerk's office, ...	1,232 00	
Chief Inspector's office,...	96 00	
Inspectors' room, ...	210 00	
Private room, ...	20 00	
Bertillon room, ...	944 50	
Deputy Chief's room, ...	112 00	
Captains' room, ...	83 00	
Signal room, ...	48 50	
General office, ...	55 00	
Lieutenants' room, ...	68 00	
Emergency room, ...	60 00	
Matrons' rooms, ...	143 00	
Men's detention room, ...	38 00	
Women's detention rooms,	58 00	
Men's lockup, ...	10 00	
Women's lockup, ...	37 00	
Court room, ...	500 00	
Judge's room, ...	21 50	
Clerk of the Court's room,	20 00	
Prosecuting Attorney's room, ...	29 00	
Witness room, ...	8 00	
Juvenile court room, ...	37 00	
Sergeants' room, ...	87 00	
Locker room, ...	1,088 00	
Vice Squad room, ...	98 00	
Assembly room, ...	103 00	
Record room, ...	85 00	
Revolver range, ...	690 00	
		$152,000 00
Amounts carried forward,	$6,374 00	

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Amounts brought forward,	$6,374 00	$152,000 00	
Equipment, ...	4,020 50		
Storeroom, ...	158 60		
Janitors' supplies, ...	161 00		
Garage, ...	8,642 25		
Corridors, etc., ...	681 00		
Bicycle room, ...	228 00		
Station, No. 2, Indian Orchard, ...	685 55		
		20,950 90	
			$172,950 90

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SCHOOL DEPARTMENT.	Brick or Wood.	Stories.	Land.	Buildings.	Furniture.	TOTAL.
Alden Street	B	2	$2,500.00	$14,000.00	$306.00	$16,806.00
Armory Street	B	2	4,500.00	145,300.00	2,633.26	152,433.26
Barrows	B	3	6,000.00	39,000.00	789.13	45,789.13
Belmont Avenue	W	2	2,500.00	5,400.00	200.00	8,100.00
Boston Road	W	2	500.00	6,900.00	1,100.00	8,500.00
Brightwood	B	2	3,000.00	34,800.00	1,430.00	39,230.00
Buckingham	B	2	11,000.00	48,000.00	2,351.00	61,351.00
Carew Street	B	2	8,500.00	45,000.00	946.00	54,446.00
*Carlisle	B	2	1,000.00	200.00		1,200.00
Central Street	B	3	9,000.00	74,308.79	1,708.15	85,016.94
Charles Street	B	2	1,700.00	14,000.00	248.00	15,948.00
Chestnut Street	B	3	41,000.00	244,000.00	6,278.78	291,278.78
Dry Bridge	W	1	300.00	1,200.00	125.00	1,625.00
Eastern Avenue	B	2	3,200.00	30,000.00	1,074.00	34,274.00
East Union Street	B	2	2,700.00	23,000.00	1,235.00	26,935.00
*Emery Street Storehouse	B	2	2,500.00	5,000.00		7,500.00
Five Mile Pond	B	2	100.00	2,000.00	45.00	2,145.00
Forest Park	B	3	19,000.00	85,000.00	2,400.00	106,400.00
Glenwood	B	2	1,500.00	16,000.00	747.31	18,247.31
High (Central)	B	3	100,000.00	350,000.00	15,000.00	465,000.00
High (Technical)	B	3	30,000.00	280,000.00	18,601.14	328,601.14
High School of Commerce			200.00			200.00
Homer Street	B	2	8,000.00	36,000.00	1,737.00	45,737.00
Hooker	B	3	50,000.00	60,000.00	2,315.00	112,315.00
Howard Street	B	3	13,000.00	46,000.00	2,825.00	61,825.00
Indian Orchard Grammar	B	3	4,000.00	65,000.00	1,423.00	70,423.00
Indian Orchard Primary	W	2	1,200.00	12,000.00	720.00	13,920.00
Jefferson Avenue	B	2	7,000.00	40,000.00	1,000.00	48,000.00
Kensington Avenue	B	2	8,500.00	98,086.74	3,152.75	109,739.49
Lincoln	B	2	9,950.00	87,913.82	4,136.00	101,999.82
Pynchon Street	B	2	26,600.00	38,000.00		64,600.00
School Street	B	2	13,500.00	18,000.00	600.00	32,100.00
Sixteen Acres	B	2	100.00	2,000.00	42.00	2,142.00
South Main Street	B	2	10,000.00	45,000.00	2,400.00	57,400.00
State Street	B	3	44,000.00	78,000.00	3,025.00	125,025.00
Strickland	B	2	3,000.00	20,000.00	613.00	23,613.00
Sumner Avenue	B	2	10,300.00	58,121.50	2,975.74	71,397.24
Tapley	B	2	10,000.00	70,000.00	2,469.91	82,469.91
*Wachogue	W	1	100.00	800.00	35.00	935.00
White Street	B	2	4,500.00	49,500.00	2,066.32	56,066.32
William Street	B	1	8,000.00	58,000.00	2,200.00	68,200.00
Worthington Street	B	3	7,000.00	45,000.00	848.00	52,848.00
York Street			2,000.00			2,000.00
Office Building	W	2	7,900.00	3,000.00	1,200.00	12,100.00
			$499,350.00	$2,393,580.85	$92,996.49	$2,985,877.34

Value of books, supplies, and apparatus	$108,833.39
Kindergarten equipment and supplies	3,189.79
Technical High School equipment and materials	24,420.09
Cooking School equipment and supplies	3,790.37
High School of Commerce equipment and supplies	6,280.69
Vocational School equipment and supplies	10,418.16
Tools and furniture in hands of Schoolhouse Agent	921.28
Janitors' supplies, Schoolhouse Agent	558.09
Fuel on hand	12,600.00
	$3,156,889.20

*Unused as a school.

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STREET LIGHTING DEPARTMENT.

PROPERTY IN USE.

1,058 mastarms,	$11,783 00	
1,137 lamp poles,	6,007 00	
172 iron poles, with goosenecks, complete,	6,263 00	
Meters,	785 00	
Miscellaneous tools,	90 00	
One horse,	250 00	
Four wagons, two sleighs, pole truck, harnesses, blankets, robes, etc.,	238 00	
Storehouse and sheds,	500 00	
One touring car,	180 00	
		$26,096 00

STOCK ON HAND NOT IN USE.

Fifteen goosenecks,	$131 25	
Derrick,	126 00	
Creosote kettle,	140 00	
Mastarms, cable, crossarms, and repair parts,	451 68	
Poles, tops, steps, sockets, pulleys, and ropes,	2,757 33	
Screws, ladders, spreaders, snaps, gooseneck cut-outs,	135 54	
7,000 charts for recording meters,	34 09	
Coal, hay, and oats,	55 38	
Automobile supplies,	20 00	
Creosote and carbolineum,	84 40	
		3,935 67
		$30,031 67

STREET AND SEWER DEPARTMENTS.

LANDS.

City yard, Logan street,	$8,500 00	
City yard, Summer street,	30,800 00	
Gravel bank, Five Mile pond,	100 00	
Gravel bank, Island pond,	350 00	
Gravel bank, Boston road,	75 00	
Trap rock quarry, Westfield,	250 00	
		$40,075 00

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Amount brought forward,		$40,075 00
BUILDINGS AND STRUCTURES.		
Barn, wagon house, and shed,	$16,048 00	
Scales,	318 00	
Trap rock bins and trestle,	9,000 00	
Steam roller house,	800 00	
		26,166 00
HORSES, WAGONS, ETC.		
Three automobiles,	$1,600 00	
One auto truck,	4,370 00	
Fourteen horses,	2,225 00	
Sixteen wagons and carts,	1,495 00	
Sixteen sleighs, sleds, etc.,	500 00	
Harnesses, blankets, etc.,	404 70	
Provender,	767 25	
		11,361 95
SPECIAL TOOLS AND MACHINES.		
Horse rollers,	$150 00	
Six steam rollers,	7,200 00	
Two concrete mixers,	1,569 00	
Hoisting engine,	600 00	
Macadam scraper,	140 00	
Stone dray,	250 00	
Scarifier,	410 00	
Sewer pumps and portable boiler,	235 00	
Street sweepers and cleaning equipment,	1,629 27	
Eight portable kettles,	800 00	
		12,983 27
STREET AND SEWER MATERIALS.		
Asphalt binder,	$550 54	
Castings and patterns,	562 05	
Lumber,	1,396 03	
Sand and sand tickets,	40 00	
Trap rock,	927 19	
Paving brick and wood blocks,	1,880 18	
Vitrified clay pipe,	365 21	
		5,721 20
Amount carried forward,		$96,307 42

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Amount brought forward,.....		$96,307 42
STREET WATERING EQUIPMENT.		
Nineteen water carts, ...	$3,250 00	
Three pressure carts, ...	750 00	
Two tanks for road oil, ...	1,500 00	
		5,500 00
TOOLS AND SUPPLIES, MISCELLANEOUS.		
Lanterns, globes, etc., ...	$87 25	
Machine shop stock and tools, ...	1,090 00	
Sidewalk materials and tools, ...	2,143 09	
Miscellaneous materials and tools, ...	4,052 75	
		7,373 09
FURNITURE.		
Office furniture and equipment,.....		570 00
ASHES AND GARBAGE COLLECTIONS.		
LAND AND BUILDINGS.		
State street, land and buildings, ...	$10,000 00	
South End barn, ...	800 00	
Rubbish burner, Pecousic avenue, ...	5,500 00	
		16,300 00
HORSES, WAGONS, ETC.		
Twenty-five horses, ...	$2,500 00	
Twenty-one wagons, ...	2,280 00	
Seventeen sleighs, ...	1,300 00	
Harnesses, blankets, etc., ...	470 00	
Provender, ...	465 00	
		7,015 00
Automobile, ...		550 00
TOOLS AND SUPPLIES.		
Fifty-two barrel carriers, ...	$52 00	
Thirty-two garbage pails, ...	32 00	
Twenty wagon covers, ...	48 00	
Small tools, ...	50 00	
		182 00
Total, Street Department, ...		$133,797 51
Sewers and drains, ...		1,522,175 73
		$1,655,973 24

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WATER DEPARTMENT.

Land purchased of C. J. Stebbins,	$693 00	
Land purchased of L. A. Rice,	726 00	
Land purchased of James Kirkham,	3,050 00	
Mains, etc., since original purchase of Springfield Aqueduct Company's property in 1872, cost,	1,285,650 45	
Pumping plant at Chapin pond, emergency use only, cost,	6,381 59	
Pumping plant at Five Mile pond, emergency use only, cost,	15,548 84	
Pumping plant at Loon pond, emergency use only, cost,	3,786 78	
Ludlow main, No. 2,	320,986 83	
Ludlow and Belchertown property, cost to date,	950,262 08	
Ludlow intermittent filter plant, cost to date,	50,723 94	
Little River supply, cost to date,	1,989,137 04	
Real estate at Five Mile pond, cost,	2,611 72	
Real estate, Colton street, cost,	13,245 67	
Office property, Bridge street:—		
Land, $24,700 00		
Brick buildings, 12,000 00		
Frame building, 4,500 00		
	41,200 00	
Land on Wight avenue,	6,121 00	
Stable on Wight avenue, cost to date,	6,973 51	
Team, tools, stock, and fixtures,	91,198 25	
		$4,788,296 70

WATER STREET EXTENSION.

Land and buildings,	$95,228 00

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DEPARTMENT OF PUBLIC PARKS.

Name.	Location.	Acres.	Valuation.
Armory St. Reservoir Park,	Armory street,	7.64	$8,000 00
Armory Street Triangle,	Armory street,	.02	400 00
Belmont Triangle,	Belmont avenue,	.03	600 00
Benton Lawn,	State street,	3.53	30,000 00
Calhoun Square,	Chestnut street,	2.43	35,000 00
Carew Triangle,	North Main street,	.08	12,000 00
Clarendon Fountain,	Clarendon street,	.10	500 00
Concord Terrace,	Concord terrace,	.15	1,000 00
Cottage Hill Grove,	Indian Orchard,	3.34	12,000 00
Court Sq. and Extension,	Main street,	3.87	1,400,400 00
Crescent Terrace,	Crescent terrace,	.48	2,000 00
Dartmouth Fountain,	Dartmouth st. (end),	.15	1,000 00
Dartmouth Terrace,	Dartmouth st. (end),	.39	1,500 00
Dorchester Rest,	Dorchester st. (end),	.11	1,000 00
Emerson Wight Playground,	Rutledge ave. (end),	6.55	40,000 00
Emily Bill Playground,	Franklin street,	3.86	35,000 00
Florentine Gardens,	Spruceland avenue,	.17	1,500 00
Forest Park,	Sumner avenue,	476.10	1,428,000 00
Garfield Triangle,	Garfield street,	.13	1,300 00
Gerrish Park,	Walnut street,	1.10	8,000 00
Grenada Terrace,	Grenada terrace,	3.51	2,000 00
Gunn Square,	Westford avenue,	.80	5,000 00
Kenwood Park,	Belmont avenue,	.39	1,500 00
Kenwood Terrace,	Sumner avenue,	2.12	1,500 00
Kibbe Fountain,	Federal street,	.07	1,200 00
Lafayette Rest,	Lafayette street (end),	.10	1,000 00
Magnolia Terrace,	Magnolia terrace,	.29	4,000 00
Maplewood Terrace,	Maplewood terrace,	.76	3,000 00
Marengo Park,	Marengo park,	.46	3,500 00
Massachusetts Terrace,	Massachusetts avenue,	.36	1,200 00
McKnight Glen,	Ingersoll grove,	2.92	1,500 00
McKnight Triangle,	Bay street,	.62	3,000 00
Merrick Terrace,	State street,	.55	100,000 00
Mill Street Fountain,	Mill street,	.05	800 00
Mill River Rest,	Mill street,	.08	1,000 00
Oak Grove Park,	Oak Grove avenue,	.57	500 00
Amount carried forward,.....			$3,149,900 00

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Amount brought forward,			$3,149,900 00
Name.	**Location.**	**Acres.**	**Valuation.**
Sargeant's Rest,	North Main street,	.24	15,000 00
Smith's Triangle,	Maple street,	.09	2,500 00
Stearns Square,	Bridge street,	.46	200,000 00
Sumner Terrace,	Sumner avenue,	.17	1,500 00
Tapley Playground,	Sherman street,	1.07	7,000 00
The Levee,	Elm street (end),	1.11	16,300 00
Thompson Triangle,	St. James avenue,	1.06	5,000 00
Van Horn Reservoir Park,	Armory street,	68.72	18,000 00
Watershops Triangle,	Walnut street,	1.10	800 00
Westford Circle,	Westford avenue,	.35	2,000 00
West Street Triangle,	West street,	.13	400 00
Winchester Square,	State street,	.62	25,000 00
Permanent improvements to November 30, 1912:—			
Buildings, structures, etc.,		$92,500 00	
Roads, walks, ponds, etc.,		198,700 00	
			291,200 00
			$3,734,600 00

RECAPITULATION.

Birnie Avenue Extension,	$8,950 00	
Board of Health,	70,540 00	
Engineering Department,	2,692 00	
Fire Department,	753,178 00	
Forestry Department,	23,767 48	
Miscellaneous,	26,179 00	
Municipal Building,	15,459 70	
Municipal Group,	1,251,699 55	
North Street Extension,	185,914 00	
Pauper Department,	145,218 83	
Police Department,	172,950 90	
School Department,	3,156,889 20	
Street Lighting Department,	30,031 67	
Street and Sewer Departments,	1,655,973 24	
Water Department,	4,788,296 70	
Water Street Extension,	95,228 00	
		$12,382,968 27
Land, etc., in charge of Park Commission,		$3,734,600 00

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Respectfully submitted,

JOHN G. MAXFIELD,
HENRY LASKER,
C. M. GOODWIN,
GEORGE S. COOK,
WILLIAM H. GRADY,

Committee on City Property.

BOARD OF ALDERMEN, December 23, 1912.

Read, accepted, ordered printed, and sent down for concurernce.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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CITY AUDITOR.

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CITY AUDITOR'S REPORT.

SPRINGFIELD, MASS., December 10, 1912.

To His Honor, the Mayor, and the City Council:—

The Auditor of Accounts respectfully submits the following report:—

During the fiscal year ending November 30, 1912, this department has audited all bills and pay rolls presented for payment, and made quarterly examinations of the accounts of the City Treasurer and the accounts of the Water Commissioners, and has also made semiannual examinations, as further required by ordinance, of the accounts of the City Collector and City Clerk, all of which have been found correct and to agree with the records of this office.

This department has also examined the accounts of the Commissioners of the Sinking Funds and finds they agree with the records of the office of the Treasurer.

Statements of the accounts referred to are herewith submitted, classified as prescribed by the Bureau of Statistics.

WILLIAM C. MARSH,

Auditor of Accounts.

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CITY OF SPRINGFIELD.

CITY AUDITOR'S BALANCE SHEET.

NOVEMBER 30, 1912.

GENERAL REVENUE ACCOUNTS.

ASSET ACCOUNTS.		LIABILITY ACCOUNTS.	
Cash in Banks and Offices	$222,073.58	Current Debts:	
Cash in Water Office	433.21	Appropriation Balances, Specia Accounts	$90,418.06
Accounts Receivable:		Reserve for Abatements, 1911	10,577.68
Uncollected Taxes, 1910	91.94	Reserve for Abatements, 1912	20,216.91
Uncollected Taxes, 1911	10,805.97	Reserve for Water Works	433.21
Uncollected Taxes, 1912	467,897.12	Surplus of Revenue Assets, 1911, and previous	443,762.17
Special Assessments:		Surplus of Revenue Assets, 1912	121,309.60
Street Sprinkling, 1911	215.64	Excise Tax	14,584.19
Street Sprinkling, 1912	6,721.91	Bills in process of Collection, unappropriated	33,860.08
Water Bills	5,541.92		
Miscellaneous Bills	21,380.61		
	$735,161.90		$735,161.90

NON-REVENUE ACCOUNTS.

ASSET ACCOUNTS.		LIABILITY ACCOUNTS.	
Cash in Banks	$778,320.40	Appropriation Balances	$778,320.40
Sinking Funds:		Bonded Debts:	
For Bonds within Statutory Debt Limit	858,469.29	Bonds within Statutory Debt Limit:	
For Water Bonds	226,717.30	Serial Bonds	3,031,700.00
Net Bonded Debt (Balance Acct.)	5,801,513.41	Bonds outside Statutory Debt Limit:	
		Serial Bonds	1,472,000.00
		Water Bonds:	
		Serial Bonds	2,383,000.00
	$7,665,020.40		$7,665,020.40

FIXED ASSETS.

Land, Buildings, and Equipment	$12,382,968.27	City of Springfield (Balance Account)	$12,382,96827.

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CITY OF SPRINGFIELD.

CASH RECEIPTS AND CASH PAYMENTS OF THE CITY TREASURY

FOR THE PERIOD FROM DECEMBER 1, 1911, TO NOVEMBER 30, 1912 (INCLUSIVE)

SUMMARY.

RECEIPTS.		PAYMENTS.	
Cash Receipts from Revenue Sources	$4,114,352.33	Cash Payments for Revenue Purposes	$4,043,752.91
Cash Receipts from Non-Revenue Sources	561,628.44	Cash Payments for Non-Revenue Purposes	759,203.08
	$4,675,980.77		$4,802,955.99
Cash Balance at Beginning of Period	1,127,369.20	Cash Balance at End of Period	1,000,393.98
	$5,803,349.97		$5,803,349.97

REVENUE ACCOUNTS.

RECEIPTS.		PAYMENTS.	
From Taxes of 1912	$1,919,846.83	For Taxes:	
Taxes of Previous Years	408,417.12	State	$182,027.18
State:		County	105,266.09
Corporation Tax	202,864.54	National Bank	28,411.44
Street Railway Tax	28,495.87	Departmental	2,102,187.82
Bank Tax	5,075.66	Corporation Tax	236.92
County:		Public Service Enterprise:	
Dog Tax	4,707.69	Water Works	248,820.42
Licenses:		Special Funds:	
Liquor	143,489.67	Birnie Avenue Extension	26,049.37
All Other	5,092.56	Fire Apparatus, Motor	12,000.00
Permits	6,289.66	Paige Boulevard	7,985.45
Fines and Costs (Police)	11,408.10	Pecousic Avenue	2,242.00
Special Assessments:		Central Street School	10,308.79
Street Sprinkling	29,828.13	Garbage Disposal	5,582.55
Sidewalks	10,718.98	Sherman Road	900.00
Sewers	639.82	Water Street Widening	18,867.00
Departmental	158,088.61	Refund	289.64
Public Service Enterprises:		Debt Requirements:	
Water Works	420,493.73	Funded Debt	189,200.00
Interest	28,902.20	Interest	256,580.44
Refund—Duplicate Bills	81.12	Sinking Fund Requirement	80,952.96
Temporary Loans	750,000.00	Licenses Refunded	3,113.73
Licenses Refunded	3,113.73	Temporary Loans	750,000.00
		Sinking Fund Expenses	328.00
		Liquor Licenses Remitted to State	35,862.00
Cash Balance at Beginning of Period	151,474.16	Cash Balance at End of Period	222,073.58
	$4,288,978.18		$4,288,978.18

NON-REVENUE ACCOUNTS.

RECEIPTS.		PAYMENTS.	
For Sale of Bonds	$525,000.00	For Outlays:	
Premiums on Same	13,476.75	Municipal Group	$426,208.27
Offset to Outlays	11,500.00	Central Heatng Plant	17,610.02
From Revenue Sources	11,651.69	Fire	63,306.48
		Isolation Hospital Addition	16,532.41
		Highways	13,630.79
		School	33,046.05
		Recreation	15,719.98
		Water	148,972.17
		Miscellaneous (Premiums)	24,176.91
Cash Balance at Beginning of Period	975,895.04	Cash Balance at End of Period	778,320.40
	$1,537,523.48		$1,537,523.48

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RECEIPTS AND EXPENDITURES OF DEPARTMENTS IN DETAIL.

RECEIPTS.

GENERAL REVENUE.

Taxes.			
Current Year.			
Poll	$31,890.00		
Real	1,498,954.70		
Personal	389,002.13		
		$1,919,846.83	
Previous Years		408,289.52	
From the State.			
Corporation		202,654.53	
Street Railway		28,495.87	
Bank		4,973.09	
			$2,564,259.84

LICENSES AND PERMITS.

Licenses.			
Liquor		$143,489.67	
All Other.			
Amusements	$1,695.06		
Auctioneers'	58.00		
Junk, Rags	348.00		
Milk	329.50		
Pool, Billiards	914.00		
Pawnbrokers'	350.00		
Common Victualers'	530.00		
Garbage	76.00		
Sunday Sales	625.00		
All Other	167.00		
		5,092.56	
			148,582.23
Permits.			
Marriage		$917.00	
Street		5,322.66	
			6,239.66
Forward			$2,719,081.73

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Forward.....			$2,719,081.73
FINES AND FORFEITURES.			
Court.....			11,408.10
GRANTS AND GIFTS.			
Grants from other Civil Divisions.			
From County (Dog License).....			4,707.69
COMMERCIAL REVENUE.			
SPECIAL ASSESSMENTS.			
For Expense.			
Street Sprinkling.....		$29,828.13	
For Outlays.			
Sewers.....	$639.82		
Sidewalks and Curbing.	10,718.98		
		11,358.80	
			41,186.93
DEPARTMENTAL.			
General Government.			
Collector (Fees).....		$3,070.96	
City Clerk (Fees).....		1,556.10	
License Commissioners		385.00	
Municipal Building Expense.....		.50	
Engineering.....		17.00	
Municipal Heating and Lighting Plant.....		1,000.00	
Municipal Group.....		45.45	
			6,075.01
PROTECTION OF LIFE AND PROPERTY.			
Police Department.			
Sale of Material.....	$848.06		
Offsets to Outlays.....	200.00		
Fees.....	95.00		
All Other.....	669.50		
		$1,812.56	
Forward.....		$1,812.56	$2,782,459.46

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Forward.....		$1,812.56	$2,782,459.46
Fire Department.			
Sale of Materials.....	$460.15		
Miscellaneous.....	919.50		
Offsets to Outlays.....	11,500.00		
		12,879.65	
Militia.			
Rifle Range.....		21.95	
Inspection.			
Sealer of Weights and Measures.....		635.18	
Forestry.			
Care of Trees.....		84.80	
			15,434.14
HEALTH AND SANITATION.			
Health.			
Quarantine and Contagious Disease Hospitals.....	$2,648.10		
Tuberculosis.....	806.92		
		$3,455.02	
Sanitation.			
Sewer Construction...	$29,505.73		
Ashes and Garbage...	3,424.65		
		32,930.38	
			36,385.40
HIGHWAYS AND BRIDGES.			
Repairing.....		$20,700.68	
Construction.....		10,050.00	
Sidewalks and Curbing..		1,836.66	
Sprinkling.			
Water.....	$224.22		
Oil.....	112.84		
		337.06	
Lighting.....		211.61	
			33,136.01
Forward.....			$2,867,415.01

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Forward.....			$2,867,415.01
CHARITIES.			
Almshouse.			
Sale of Products.....	$2,504.03		
Board.....	2,742.66		
Miscellaneous.....	239.35		
		$5,486.04	
Reimbursements.			
From Individuals.....	$49.71		
From Other Cities and Towns.....	4,557.82		
From the State.....	6,447.73		
		11,055.26	
			16,541.30
SOLDIERS' BENEFITS.			
State Aid.....		$13,158.00	
Military Aid.....		47.00	
Soldiers' Burials.....		851.00	
Soldiers' Relief.....		162.20	
			14,218.20
EDUCATION.			
Tuition of State Wards..		$105.50	
Tuition.....		15,589.80	
Sale of Text-Books and Supplies.....		460.09	
Miscellaneous.			
High Schools Lunch...	$11,811.47		
Rent.....	887.00		
Sale of Old Materials..	573.59		
Offsets to Outlays.....	857.00		
		14,129.06	
			30,284.45
Forward.....			$2,928,458.96

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Forward.....			$2,928,458.96
RECREATION.			
Parks and Gardens.			
Revenue for Expenses.	$1,597.29		
Offsets to Outlays.....	1,820.60		
Court Square Extension.....	1,164.61		
		$4,582.50	
Bath houses.....		377.15	
			4,959.65
UNCLASSIFIED.			
Rents.....			1,054.45
PUBLIC SERVICE ENTERPRISES.			
Water.			
Miscellaneous.....		$82,317.21	
Income from Sale of Water.....		338,007.15	
Offsets to Outlays.....		169.37	
			420,493.73
Interest.			
On Deposits.....		$12,598.45	
On Deferred Taxes....		15,847.78	
On Department Bills..		123.75	
Accrued Interest on Bonds.....		332.22	
			28,902.20
MUNICIPAL INDEBTEDNESS.			
Tax Loans.....		$750,000.00	
Loans for General Purposes.			
Municipal Group.....		525,000.00	
Premiums.....		13,476.75	
			1,288,476.75
Forward.....			$4,672,345.74

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Forward.....		$4,672,345.74
REFUNDS.		
Taxes.....	$127.60	
Licenses.....	3,113.73	
General Departments, Duplicate Bills.....	81.12	
Bank Tax.....	102.57	
Corporation Tax.....	210.01	
		3,635.03
		$4,675,980.77

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PAYMENTS—REVENUE.

DEPARTMENTAL.

GENERAL GOVERNMENT.		
Legislative.		
Salary, Clerk of the Common Council	$300.00	
Stationery and Postage	23.43	
Printing and Advertising	3,512.04	
All Other	310.60	
Charter Revision	2,336.81	
		$6,482.88
Executive.		
Mayor.		
Salary	$4,000.00	
Clerks	1,206.00	
Stationery and Postage	68.46	
Printing and Advertising	57.86	
Telephone	23.41	
Entertainment	12.75	
All Other	49.45	
		5,417.93
Financial.		
Auditor.		
Salary	$2,500.00	
Clerks	2,043.55	
Stationery and Postage	146.21	
Printing and Advertising	61.67	
Telephone	5.90	
All Other	72.28	
		4,829.61
Treasurer.		
Salary	$3,000.00	
Clerks	5,098.30	
Stationery and Postage	294.73	
Printing and Advertising	174.38	
Telephone and Burglar Alarm	202.45	
All Other	485.18	
		9,255.04
Forward		$25,985.46

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Forward		$25,985.46
Collector.		
Salary	$2,700.00	
Clerks	5,739.42	
Stationery and Postage	1,516.92	
Printing and Advertising	1,277.46	
Telephone	18.40	
All Other	823.60	
		12,075.80
Assessors.		
Salaries	$6,000.00	
Assistant Assessors	1,433.25	
Clerks and Engineering Services	4,207.08	
Stationery and Postage	128.70	
Printing and Advertising	2,033.40	
Telephone	18.50	
All Other	233.05	
		14,053.98
License Commissioners.		
Salaries	$375.00	
Clerk	91.68	
Stationery and Postage	22.00	
Printing and Advertising	112.60	
Rent	350.00	
All Other	22.25	
		973.53
OTHER GENERAL DEPARTMENTS.		
Law.		
City Solicitor and Assistant	$3,600.00	
Stenographer	470.00	
Stationery and Postage	96.31	
Printing and Advertising	11.84	
Telephone	10.45	
All Other	122.06	
		4,310.66
Forward		$57,399.43

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Forward.....		$57,399.43
City Clerk.		
Salary.....	$2,800.00	
Assistant City Clerk.....	1,100.00	
Clerks.....	3,282.50	
Stationery and Postage.....	120.79	
Printing and Advertising.....	365.84	
Telephone.....	67.25	
All Other.....	127.02	
		7,863.40
City Messenger.....		
Salary.....	$1,496.04	
Salary of Assistant.....	865.00	
Stationery and Postage.....	.32	
Telephone.....	31.23	
All Other.....	5.55	
		2,398.14
Public Works		
Salaries.....	$1,140.00	
Printing and Advertising.....	34.41	
Horses, Carriages, etc.....	154.50	
All Other.....	8.16	
		1,337.07
Engineering.		
Salary.....	$2,416.73	
Assistants.....	7,291.51	
Clerk.....	738.00	
Stationery and Postage.....	220.97	
Printing and Advertising.....	81.17	
Telephone.....	23.00	
Instruments, etc.....	248.96	
Auto and Car Tickets.....	585.00	
All Other.....	708.32	
		12,313.66
Forward.....		$81,311.70

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Forward			$81.311.70
Election and Registration.			
Registrars		$1,053.00	
Clerks		824.94	
Election Officers, etc		4,755.00	
Stationery and Postage		133.75	
Printing and Advertising		3,349.28	
All Other		1,019.33	
			11,135.30
Municipal Buildings.			
City Hall.			
Janitor	$827.61		
Furniture and Furnishings	101.60		
Light and Fuel	1,035.58		
Other Expenses	179.57		
			2,144.36
Municipal Heating and Lighting Plant.			
Engineer	$1,795.04		
Coal	3,832.31		
Firemen	3,761.53		
Furniture	100.64		
Supplies	360.60		
Light	136.43		
Other Expenses	118.28		
		$10,104.83	
Less sum paid by Police and Fire for heating building		4,107.50	
			5,997.33
PROTECTION OF LIFE AND PROPERTY.			
Police Department.			
Salaries and Wages.			
City Marshal and Assistants	$25,518.48		
Patrolmen	103,602.12		
Other Salaries and Wages.	19,596.47		
		$148,717.07	
Forward		$148,717.07	$100,588.69

Digitized by Google

Forward.....		$148,717.07	$100,588.69
Auto Maintenance.			
Auto Repairs.....	$2,059.38		
Auto Tires and Repairs.....	10.72		
Auto Supplies.....	714.84		
Gasoline.....	95.32		
		2,880.26	
Fuel and Light.....		4,003.74	
Equipment.			
Bertillon Supplies.....	$104.52		
Outlays.....	5,032.26		
Uniforms.....	2,109.35		
Signal Boxes.....	1,694.07		
All Other.....	12.60		
		8,952.80	
Repairs on Buildings....		1,474.53	
Pensions.....		1,265.50	
Other Expenses.			
Printing and Stationery	$967.99		
Telephone.....	1,077.02		
Food for Prisoners....	371.06		
Horse Hire.....	53.50		
All Other.....	4,313.92		
		6,783.49	
			174,077.39
Fire Department.			
Salaries and Wages.			
Chief Engineer.....	$2,493.15		
Assistant Engineers...	4,986.58		
Firemen.....	172,833.82		
Callmen.....	2,220.59		
Other Employees.....	2,042.01		
		$184,576.15	
Forward.....		$184,576.15	$274,666.08

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Forward.....		$184,576.15	$274,666.08
Horses and Care of Same.			
Horses.....	$59.62		
Hay, Grain and Straw.	6,492.76		
Shoeing.....	1,455.10		
Veterinary and Medicines.....	403.34		
All Other.....	2.00		
		8,412.82	
Fuel and Light.			
Coal.....	$6,067.35		
Wood.....	16.27		
Gas.....	68.45		
Electricity.....	1,010.29		
		7,162.36	
Equipment and Repairs.			
Supplies.....	$2,646.70		
Apparatus.....	5,410.05		
Hose.....	3,022.20		
Equipment for Men...	514.45		
Alarm Boxes.....	5,783.79		
Fire Apparatus Motor..	20,135.32		
All Other.....	669.01		
		38,181.52	
Repairs on Buildings....		2,887.96	
Pensions.....		1,367.09	
Outlays.....		12,000.00	
Other Expenses.....		4,758.64	
			259,346.54
Electric.			
Construction, City Wires Underground.			
Material.....		$62.57	
Labor.....		195.13	
Cable.....		2,549.46	
Posts.....		135.00	
All Other.....		52.76	
			2,994.92
Forward.....			$537,007.54

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Forward		$537,007.54
Militia Rifle Range.		
Salaries and Wages	$461.91	
Repairs	10.53	
Taxes and Water Rent	127.70	
All Other	10.09	
		610.23
Inspection of Buildings.		
Inspector	$3,000.00	
Clerk	613.24	
Assistant Inspectors	2,108.34	
Plumbing Inspectors	3,591.66	
Gas Inspectors	600.00	
Wire Inspector	1,299.98	
Stationery and Postage	164.83	
Printing and Advertising	561.58	
Telephone	20.35	
Furniture	89.01	
Tickets	350.00	
All Other	472.40	
		12,871.39
Inspection of Wires.		
Inspector	$350.00	
Assistant Inspector	475.02	
Printing and Advertising	20.49	
Horses, Carriages, etc	43.00	
All Other	3.00	
		891.51
Sealer of Weights and Measures.		
Sealer	$525.00	
Deputy Sealer	1,000.00	
Inspector of Coal	100.00	
Stationery and Postage	15.71	
Printing and Advertising	44.15	
Car Fares, Teams, etc	249.99	
Telephone	36.30	
Rent	90.00	
All Other	33.68	
		2,094.83
Forward		$553,475.50

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Forward			$553,475.50
Forestry.			
Superintendent		$1,909.36	
Labor		9,603.31	
Horses and Care of Same		518.40	
All Other		5,574.50	
Salary, as Smoke Inspector		651.51	
Other Expenditures for Smoke Nuisance		41.00	
			18,298.08
Other Protection of Life and Property.			
Fish Warden.			
Salary			25.00
HEALTH AND SANITATION.			
Health.			
General Administration.			
Salaries, Agent and Physician	$3,050.00		
Clerk	829.11		
Stationery and Postage	167.43		
Printing and Advertising	162.95		
Telephone	54.65		
Tickets	180.00		
All Other	75.28		
		$4,519.42	
Quarantine and Contagious Disease Hospitals.			
Board and Treatment	$152.56		
Transportation	93.00		
Head Nurse	860.48		
Matron and Nurses	2,874.93		
Other Employees	1,644.68		
Groceries and Provisions	4,186.76		
Drugs and Medicines	607.40		
Fuel and Lights	2,377.76		
Dry Goods and Clothing	3,848.29		
Forward	$16,645.86	$4,519.42	$571,798.58

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Forward.....	$16,645.86	$4,519.42	$571,798.58
Rent.....	58.75		
Repairs and Supplies....	1,284.77		
All Other.....	1,864.20		
		19,853.58	
Sanitary Inspectors.....		3,473.77	
Tuberculosis.			
Board of Treatment.....	$5,923.35		
Aid.....	820.91		
Clothing.....	30.90		
		6,775.16	
Vital Statistics.....		1,262.33	
Other Expenditures.			
Fumigation and Disinfectants.....	$191.54		
Laboratory.....	919.39		
		1,110.93	
			36,995.19
Inspection.			
Inspection of School Children.....		$3,412.85	
Inspection of Meats and Provisions.....		1,100.00	
Inspection of Milk and Vinegar.....		2,918.26	
			7,431.11
Sanitation.			
Sewer Maintenance and Operation.			
Salary and General Expense.....	$3,249.16		
Maintenance.....	16,207.75		
		$19,456.91	
Construction.....		39,000.00	
Forward.....		$58,456.91	$616,224.88

Digitized by Google

Forward.....		$58,456.91	$616,224.88
Ashes.			
Labor.....	$38,083.34		
Teams.....	1,520.67		
Horses and Care.....	2,910.01		
Equipment.....	1,262.62		
All Other.....	291.12		
		44,067.76	
Garbage.			
Labor.....	$15,421.12		
Horses and Care.....	3,136.80		
Equipment.....	740.31		
All Other.....	676.77		
		19,975.00	
Garbage Disposal.....		5,582.55	
Street Cleaning.....		45,717.41	
			173,799.63
HIGHWAYS AND BRIDGES.			
General Administration....	$7,117.55		
Repairing.....	129,416.61		
Construction.....	92,000.00		
		$228,534.16	
Birnie Ave. Extension.....		26,049.37	
Pecousic Avenue.....		2,242.00	
Page Boulevard.....		7,985.45	
Sherman Road.....		900.00	
Water Street widening.....		18,867.00	
Sidewalk and Curbing.			
Maintenance.....	$13,769.25		
Construction.....	14,650.00		
		28,419.25	
Snow Removal.....		20,537.40	
Sprinkling.			
Water.....	$19,602.88		
Oil.....	21,815.54		
		41,418.42	
Forward.....		$374,953.05	$790,024.51

Digitized by Google

Forward.....		$374,953.05	$790,024.51
Lighting.			
Salary of Superintendent.	$1,660.96		
Labor.....	2,009.76		
Electricity.....	102,758.61		
Equipment.....	3,568.56		
Auto Maintenance.....	693.37		
Horses and Care.....	222.66		
Other Expenses.....	571.24		
		111,485.16	
Other Expenses.			
Street Signs.....		1,019.77	
			487,457.98
CHARITIES.			
General Administration.			
Salary of Agent.....	$2,000.00		
Salaries of Clerks.....	1,892.50		
Stationery, Printing and Postage.....	272.91		
Telephone.....	127.74		
City Physician.....	1,250.00		
All Other.....	350.49		
		$5,893.64	
Almshouse and Farm.			
Superintendent.....	$1,200.00		
Other Salaries and Wages	7,985.31		
Groceries and Provisions.	6,919.98		
Dry Goods and Clothing.	1,301.45		
Repairs.....	1,158.37		
Fuel and Light.....	3,031.27		
Equipment and Supplies.	1,800.44		
Forward.....	$23,396.82	$5,893.64	$1,277,482.49

Digitized by Google

Forward.....	$23,396.82	$5,893.57	$1,277,482.49
Furniture and Furnishings	239.05		
Stock and Care.....	2,798.10		
Farming.....	997.51		
Medicine.....	575.54		
Wayfarers' Lodge.....	3,572.21		
All Other.....	830.52		
	$32,409.75		
Less care paid by Isolation Hospital.....	477.19		
		31,932.56	
Outside Relief by City.			
Aid to Paupers.....	$2,561.96		
Burials.....	500.50		
Groceries, Provisions, Fuel, etc.....	7,789.61		
Medicines and Medical Attendance.....	1,635.70		
State Institutions.....	264.07		
		12,751.84	
Other Expenses.			
Cities.....	$450.18		
Towns.....	511.01		
Children's Institutions..	26.00		
		987.19	
			51,565.23
SOLDIERS' BENEFITS.			
General Administration.			
Agent's Salary.....		$600.00	
Agent's Expenses.....		1.55	
Burial Agent.....		38.00	
State Aid.....		13,183.00	
Military Aid.....		106.00	
Soldiers' Burials.....		665.00	
Soldiers' Relief.....		4,084.28	
			18,677.83
Forward.....			$1,347,725.55

Digitized by Google

Forward.....			$1,347,725.55
EDUCATION.			
General Expenses.			
Administrative Salaries.			
Superintendent.....	$5,000.00		
Superintendent's Clerk..	821.77		
Secretary of the Board...	100.00		
		$5,921.77	
Other General Salaries.			
Chief Clerk.....	$2,149.95		
Clerks.....	1,965.00		
Truant Officers.....	2,600.00		
Schoolhouse Agent.....	1,925.60		
Messengers.....	26.00		
Sundry Persons.....	4,306.25		
		12,972.80	
Other General Expenses.			
Stationery and Postage..	$1,189.06		
Printing and Advertising	71.03		
Telephones.....	1,131.19		
Traveling Expenses, Committee.....	232.80		
Traveling Expenses, Superintendent.....	100.21		
School Census.....	650.00		
Auto.....	522.71		
All Other.....	474.19		
		4,371.19	
Teachers' Salaries.			
General.....	$360,179.80		
Cooking.....	3,222.50		
Evening Trades.....	4,238.24		
High School of Commerce	21,393.65		
Kindergarten.....	22,770.46		
Technical High.....	51,732.15		
Vocational.....	7,512.50		
Matrons.....	2,078.70		
Summer Manual Training.	325.00		
		473,453.00	
Forward.....		$496,718.76	$1,347,725.55

Digitized by Google

Forward.....		$496,718.76	$1,347,725.55
Text-Books and Supplies.			
Text and Reference Books	$14,742.94		
Paper, pens, etc.....	13,063.50		
Pianos and Tuning.....	71.00		
Handling Supplies.....	843.30		
Physical Training.....	925.95		
Elementary Science.....	230.39		
Freight and Cartage....	1,894.34		
Printing.....	2,961.19		
Hygiene.....	33.50		
All Other.....	1,925.87		
Domestic Science.....	1,368.77		
Drawing.....	937.91		
Plumbing Supplies.....	650.22		
Hardware, Tools, etc....	1,196.01		
Electrical Supplies and Steel Fittings.....	5,348.29		
Laboratory.....	1,529.12		
Manual Training.....	3,175.60		
Lumber.....	1,223.99		
		52,121.89	
Transportation.			
Teams.....	$910.00		
Car Fares.....	565.07		
		1,475.07	
Support of Truants.....		375.54	
Janitors' Services.			
Janitors.....	$44,515.38		
Special Cleaning.....	1,165.12		
All Other.....	3.90		
		45,684.40	
Fuel and Light.			
Coal.....	$27,770.23		
Electricity.....	6,404.11		
Gas.....	1,442.80		
		35,617.14	
Forward.....		$631,992.80	$1,347,725.55

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Forward.....		$631,992.80	$1,347,725.55
Maintenance of Buildings and Grounds.			
Carpentry.....	$3,592.40		
Masonry.....	1,687.78		
Gas, Plumbing, Steam Fitting.....	7,136.11		
Painting and Glazing....	5,933.74		
Lumber, Brick, etc.....	1,488.73		
Flags and Flag Staffs....	20.30		
Janitors' Supplies.....	2,145.51		
Laundry Work.....	475.49		
Heating and Ventilating .	6,111.93		
Electrical Work.....	2,631.60		
All Other.....	3,245.03		
		34,468.62	
Furniture and Furnishings.			
Desks, Chairs, etc.....	$5,820.52		
Clocks.....	639.50		
All Other.....	1,182.98		
		7,643.00	
Rent.....		1,504.20	
Other Expenses.			
Diplomas.....	$167.82		
Medals and Prizes.....	8.50		
Graduation Exercises....	260.00		
Insurance.....	345.05		
Carriage and Express....	132.24		
Miscellaneous Printing and Advertising.....	110.65		
All Other.....	134.72		
		1,158.98	
High Schools Lunch.			
Services.....	$2,978.00		
Supplies.....	8,295.97		
		11,273.97	
Forward.....		$688,041.57	$1,347,725.55

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Forward.....		$688,041.57	$1,347,725.55
Central Street School.			
Painting and Carpentry .	$2,813.89		
Contracts.....	7,189.00		
All Other.....	305.90		
		10,308.79	
			698,350.36
LIBRARIES.			
Appropriation.....		$51,000.00	
Dog Licenses.....		4,707.69	
			55,707.69
RECREATION.			
General Administration.			
Superintendent.....	$2,475.00		
Clerk.....	900.00		
		$3,375.00	
Other Expenses.			
Stationery and Postage..	$37.50		
Printing and Advertising.	375.21		
Auto.....	1,005.89		
Telephone.....	78.96		
All Other.....	30.40		
		1,527.96	
Parks and Gardens.			
Salaries and Wages.....	$23,969.84		
Other Expenses.			
Horses and Teams.....	5,943.56		
Miscellaneous Supplies..	2,364.60		
Repairs on Buildings....	357.94		
Food, Animals.....	760.98		
Supplies, Menagerie Building.....	27.96		
All Other.....	842.65		
		34,267.53	
Drinking Fountains.....		550.00	
Construction.....		21,588.71	
Forward.....		$61,309.20	$2,101,783.60

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Forward.....		$61,309.20	$2,101,783.60
Playgrounds and Gymnasia.			
Salaries and Wages.....	$10,866.18		
Gymnasium Apparatus..	710.76		
Supplies.....	1,951.16		
New Work.....	2,539.65		
All Other.....	264.65		
		16,332.40	
Celebrations.			
Fourth of July.....	$1,500.00		
Memorial Day.....	650.00		
		2,150.00	
			79,791.60
UNCLASSIFIED.			
Damages to Persons and Personal Property....		$3,578.90	
City Clocks.....		15.00	
Spencer Reward.....		500.00	
Printing and Stationery.			
Expert Printer.....	$350.00		
Stationery and Postage..	17.60		
Printing and Advertising	67.73		
All Other.....	18.55		
		453.88	
			4,547.78
PUBLIC SERVICE ENTERPRISES.			
Water.			
Maintenance and Operation.....		$196,619.36	
Construction.....		52,201.06	
			248,820.42
ADMINISTRATION OF TRUST FUNDS.			
Expenses of Sinking Fund.			
Rent of Safe Deposit Box		$25.00	
Typewriting.....		3.00	
Salary.....		300.00	
			328.00
Forward.....			$2,435,271.40

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Forward.....			$2,435,271.40
INTEREST.			
Temporary Loans.			
Anticipation of Taxes...		$8,962.28	
Loans for General Purposes.			
Highways.....	$10,800.00		
Sewers.....	8,195.00		
Schools.....	66,121.50		
Parks.....	6,375.00		
All Other.....	67,421.66		
		158,913.16	
Loans for Public Service Enterprises.			
Water.....		88,705.00	
			256,580.44
MUNICIPAL INDEBTEDNESS.			
Temporary Loans.			
Anticipation of Taxes...		$750,000.00	
Bonds and Notes from Revenue.			
Highways, North Street Extension.....	$26,000.00		
Sewers.....	5,500.00		
Schools.....	23,700.00		
Parks.....	2,000.00		
All Other.....	72,000.00		
		129,200.00	
Public Service Enterprises.			
Water.....		60,000.00	
			939,200.00
SINKING FUNDS.			
Appropriation, City Government.....		$71,000.00	
Water Sinking Fund....		9,952.96	
			80,952.96
Forward.....			$3,712,004.80

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Forward.....			$3,712,004.80
AGENCY TRANSACTIONS.			
Taxes.			
State.....	$182,027.18		
Non-Resident Banks....	28,326.81		
County.....	105,266.09		
		$315,620.08	
Liquor Licenses.			
Remitted to State.....		35,862.00	
			351,482.08
REFUNDS.			
Taxes.....		$97.42	
Licenses.....		3,172.49	
Special Assessments, Abatements.....		1.16	
Rent Refund.....		50.00	
Heathcote Refund.....		20.00	
Stenography, Hearing.....		62.30	
Bank Tax.....		84.63	
Public Service Corporation Tax.....		220.42	
Business Corporation Tax.....		16.50	
			3,724.92
Total.....			$4,067,211.80

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PAYMENTS—NON-REVENUE.

DEPARTMENTAL.

GENERAL GOVERNMENT.			
Municipal Group.			
Contracts	$399,336.00		
Architects	18,057.24		
Clerk of the Works	2,267.25		
Consulting Engineers	5,272.04		
Traveling Expenses	256.90		
Printing and Advertising	49.21		
Office Expenses	714.36		
All Other	255.27		
		$426,208.27	
Central Heating Plant			
Architects	$898.35		
Contracts	15,501.25		
Clerk	100.00		
Consulting Engineers	452.14		
Labor and Supplies	646.06		
All Other	12.22		
		17,610.02	
			$443,818.29
PROTECTION OF LIFE AND PROPERTY.			
Fire Department.			
Fire Station, North St		$54,567.27	
Fire Station, Pine St		8,739.21	
			63,306.48
HEALTH AND SANITATION.			
Health.			
Isolation Hospital Addition			16,532.41
HIGHWAYS AND BRIDGES.			
Highways.			
Locust Street Layout		$13,418.95	
North Street Extension		211.84	
			13,630.79
Forward			$537,287.97

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Forward.....			$537,287.97
EDUCATION.			
New Buildings.			
Schoolhouse, Sumner Ave		$31,942.72	
Schoolhouse, Lincoln....		903.33	
High School of Commerce		200.00	
			33,046.05
RECREATION.			
Parks and Gardens.			
Forest Park Menagerie Building.....		$8,774.72	
River Front.....		1,880.18	
Court Square Extension..		5,065.08	
			15,719.98
PUBLIC SERVICE ENTERPRISES.			
Water.			
Little River Water Supply.			
Labor.....	$2,490.42		
Express.....	4,486.81		
Supplies.....	657.53		
Engineer Services.....	2,366.68		
House and Land Damages	117,593.87		
Witnesses in Damages...	388.40		
Transfer to Water.....	12,000.00		
Legal Fees.....	8,661.86		
All Other.....	326.60		
			148,972.17
Premium Account.....	$23,458.89		
	718.02		
			24,176.91
			$759,203.08

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THE FOLLOWING TABLE SHOWS THE RECEIPTS AND EXPENDITURES OF THE

REVENUE AND NON-REVENUE ACCOUNTS,

ALSO THAT THE CITY HAS SPENT $215,293.80 FROM REVENUE RECEIPTS FOR OUTLAYS OR NEW CONSTRUCTION FOR WHICH BONDS COULD HAVE BEEN ISSUED.

REVENUE RECEIPTS AND PAYMENTS.

RECEIPTS.		PAYMENTS.	
From Taxes	$2,248,639.76	Departmental:	
Licenses and Permits	118,959.89	General Government	$100,588.69
Fines and Forfeitures	11,408.10	Protection of Life and Property	468,214.97
Grants and Gifts	4,707.69	Health and Sanitation	179,225.98
Special Assessments:		Highways and Bridges	324,764.16
Street Sprinkling	29,828.13	Charities	51,565.23
Departmental:		Soldiers' Benefits	18,677.83
General Government	6,029.56	Education	698,350.36
Protection of Life and Property	3,784.14	Libraries	55,707.69
Health and Sanitation	6,879.67	Recreation	55,663.24
Highways and Bridges	23,086.01	Unclassified	4,547.78
Charities	16,541.30	Public Service Enterprises:	
Soldiers' Benefits	14,218.20	Water Works	196,619.36
Education	29,427.45	Administration of Trust Funds	328.00
Recreation	3,139.05	Interest	256,580.44
Unclassified	1,054.45	Municipal Indebtedness	189,200.00
Public Service Enterprises:		Sinking Funds	80,952.96
Water	420,324.36		
Interest	28,902.20		
Total Revenue Receipts	$2,966,879.96	Total Revenue Payments	$2,680,986.64
		Outlays Paid from Revenue	215,293.80
Cash Balance, Dec. 1, 1911	151,474.16	Cash Balance, Nov. 30, 1912	222,073.58
	$3,118,354.02		$3,118,354.02

NON-REVENUE RECEIPTS AND PAYMENTS.

RECEIPTS.		PAYMENTS.	
Special Assessments:		Municipal Group	$426,208.27
Sewers	$639.82	Central Heating Plant	17,610.02
Sidewalks and Curbing	10,718.98	Fire Station, North street	54,567.27
Departmental:		Fire Station, Pine street	8,739.21
Municipal Group	45.45	Isolation Hospital Addition	16,532.41
Police Department	200.00	Sewer Construction	39,000.00
Fire Department	11,500.00	Street Construction	158,489.48
Sewer Construction	29,505.73	Schools, New Buildings	33,046.05
Highways and Bridges, Construction	10,050.00	Forest Park Menagerie Bldg.	8,774.72
Schools, Offsets to Outlays	857.00	River Front	1,880.18
Parks and Gardens	1,820.60	Court Square Extension	5,065.08
Water	169.37	Public Parks, Construction	21,588.71
Municipal Indebtedness	538,476.75	Water Works, Construction	52,201.06
		Little River	148,972.17
		Premium Account	24,176.91
Total Non-Revenue Receipts	$603,983.10	Total Non-Revenue Payments	$1,016,851.54
Revenue Cash received for Non-Revenue Purposes	215,293.80		
Cash Balance, Dec. 1, 1911	975,895.04	Cash Balance, Nov. 30, 1912	778,320.40
	$1,795,171.94		$1,795,171.94

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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SINKING FUNDS.

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REPORT OF THE

Commissioners of the Sinking Funds.

SPRINGFIELD, MASS., November 25, 1912.

To His Honor, the Mayor, and City Council.

GENTLEMEN:—The Commissioners of the Sinking Funds of the City of Springfield have the honor to report the condition of the sinking funds, established to meet indebtedness of the city, and the income accruing to the same for the year ending November 16, 1912, as follows:—

WATER WORKS.

$200,000, 4% bonds, April 1, 1913. $275,000, 3½% and 4% bonds, 1920 and 1923.

RECEIPTS.

Amount on hand at last report,		$208,531 11	
Surplus balance from Water Department for 1911, received December 21, 1911,		9,952 96	
Interest on investments,		8,800 33	
Addition of difference between price paid and par value of bonds bought during the year,		26 25	
		$227,310 65	
Premium paid for bonds—charged off,	$69 80		
Accrued interest paid on bonds—charged off,	523 55		
		593 35	
			$226,717 30

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INVESTMENTS.

City of Springfield bonds,	$91,000 00	
Other Municipal bonds,	30,000 00	
Railroad bonds,	84,000 00	
Street Railway bonds,	20,000 00	
Cash in bank at interest,	1,717 30	
		$226,717 30

SCHOOLHOUSE, WARD SIX.

Loan $35,000, 4% bonds, October 1, 1895, 20 years.

RECEIPTS.

Amount on hand at last report,	$30,178 48	
Appropriation of City Council received November 10, 1912,	600 00	
Interest on investments,	1,178 46	
		$31,956 94

INVESTMENTS.

City of Springfield bonds,	$12,000 00	
Municipal bonds,	7,950 00	
Railroad bonds,	3,000 00	
Street Railway bonds,	5,000 00	
Cash in bank at interest,	4,006 94	
		$31,956 94

HIGH SCHOOL LOAN.

Loan $370,000, 4% bonds, January 1, 1897, 20 years.

RECEIPTS.

Amount on hand at last report,		$256,261 86	
Appropriation of City Council received November 10, 1912,		13,000 00	
Interest on investments,		10,135 25	
		$279,397 11	
Premium paid for bonds—charged off,	$254 78		
Accrued interest paid on bonds—charged off,	117 25		
		372 03	
			$279,025 08

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INVESTMENTS.

City of Springfield bonds,	$142,000 00	
Bonds, Municipal and Town,	49,050 00	
Railroad bonds,	51,000 00	
Street Railway bonds,	21,000 00	
Cash in bank at interest,	15,975 08	
		$279,025 08

SCHOOL LOAN, 1900.

Loan $145,000, 3% and 3½% bonds, December 1, 1899, and June 1, 1900, 20 years.

RECEIPTS.

Amount on hand at last report,		$74,903 19	
Appropriation of City Council received November 10, 1912,		5,700 00	
Interest on investments,		2,831 00	
Addition of difference between price paid and par value of bonds bought during the year,		52 50	
		$83,486 69	
Premium paid for bonds—charged off,	$46 20		
Accrued interest paid on bonds—charged off,	117 28		
		163 48	
			$83,323 21

INVESTMENTS.

City of Springfield bonds,	$43,500 00	
Municipal bonds,	6,250 00	
Railroad bonds,	22,000 00	
Street Railway bonds,	500 00	
Cash in bank at interest,	11,073 21	
		$83,323 21

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SEWER LOAN, 1900.

Loan $142,000, 3% bonds, June 1, 1900, 30 years.

RECEIPTS.

Amount on hand at last report, ...		$43,958 11	
Appropriation of City Council received November 10, 1912, ...		3,300 00	
Interest on investments, ...		1,757 50	
		$49,015 61	
Premium paid for bonds—charged off, ...	$77 40		
Accrued interest paid on bonds—charged off, ...	77 79		
		155 19	
			$48,860 42

INVESTMENTS.

City of Springfield bonds, ...	$26,000 00	
Municipal bonds, ...	8,000 00	
Railroad bonds, ...	5,000 00	
Street Railway bonds, ...	5,300 00	
Cash in bank at interest, ...	4,560 42	
		$48,860 42

SCHOOL LOAN, 1901.

Loan $125,000, 3½% bonds, September 1, 1901, 20 years.

RECEIPTS.

Amount on hand at last report, ...		$59,108 20	
Appropriation of City Council received November 10, 1912, ...		5,000 00	
Interest on investments, ...		2,395 50	
Addition of difference between price paid and par value of bonds bought during the year, ...		52 50	
		$66,556 20	
Premium paid for bonds—charged off, ...	$66 00		
Accrued interest paid on bonds—charged off, ...	164 22		
		230 22	
			$66,325 98

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INVESTMENTS.

City of Springfield bonds,	$34,000 00	
Municipal bonds,	4,000 00	
Railroad bonds,	10,000 00	
Mortgage note,	12,000 00	
Cash in bank at interest,	6,325 98	
		$66,325 98

SCHOOL LOAN, 1902.

Loan $55,000, 3½% bonds, October 1, 1902, 20 years.

RECEIPTS.

Amount on hand at last report,		$22,239 44	
Appropriation of City Council received November 10, 1912,		2,200 00	
Interest on investments,		922 50	
		$25,361 94	
Premium paid for bonds—charged off,	$49 80		
Accrued interest paid on bonds—charged off,	58 33		
		108 13	
			$25,253 81

INVESTMENTS.

City of Springfield bonds,	$14,500 00	
Municipal bonds,	2,000 00	
Railroad bonds,	5,000 00	
Street Railway bonds,	500 00	
Cash in bank at interest,	3,253 81	
		$25,253 81

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PUBLIC PARK LOAN, 1903.

Court Square Extension.

Loan $125,000, 3½% bonds, June 1, 1903, 20 years.

RECEIPTS.

Amount on hand at last report,		$52,722 25	
Appropriation of City Council received November 10, 1912,		5,000 00	
Interest on investments,		2,003 50	
		$59,725 75	
Premium paid for bonds—charged off,	$39 60		
Accrued interest paid on bonds—charged off,	94 00		
		133 60	
			$59,592 15

INVESTMENTS.

City of Springfield bonds,	$37,000 00	
Railroad bonds,	12,000 00	
Street Railway bonds,	6,700 00	
Cash in bank at interest,	3,892 15	
		$59,592 15

SCHOOL LOAN, 1903.

Loan $40,000, 3½% bonds, September 1, 1903, 20 years.

RECEIPTS.

Amount on hand at last report,		$15,327 35	
Appropriation of City Council received November 10, 1912,		1,700 00	
Interest on investments,		614 27	
		$17,641 62	
Premium paid for bonds—charged off,	$41 25		
Accrued interest paid on bonds—charged off,	23 33		
		64 58	
			$17,577 04

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INVESTMENTS.

City of Springfield bonds,	$10,500 00	
Municipal bonds,	1,000 00	
Railroad bonds,	4,000 00	
Cash in bank at interest,	2,077 04	
		$17,577 04

SCHOOL LOAN, 1905.

Technical High School and White Street Grammar School.

Loan $396,000, 3½% bonds, January 1, 1905, 20 years.

RECEIPTS.

Amount on hand at last report,		$115,577 08	
Appropriation of City Council received November 10, 1912,		15,500 00	
Interest on investments,		4,336 00	
Addition of difference between price paid and par value of bonds bought during the year,		73 80	
		$135,486 88	
Premium paid for bonds—charged off,	$256 70		
Accrued interest paid on bonds—charged off,	214 85		
		471 55	
			$135,015 33

INVESTMENTS.

City of Springfield bonds,	$81,000 00	
Municipal bonds,	18,000 00	
Railroad bonds,	19,000 00	
Cash in bank at interest,	17,015 33	
		$135,015 33

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SCHOOL LOAN, 1906.

Loan $207,000, 4% bonds, November 1, 1906, 20 years.

RECEIPTS.

Amount on hand at last report,		$40,643 49	
Appropriation of City Council received November 10, 1912,		7,500 00	
Interest on investments,		1,565 60	
Addition of difference between price paid and par value of bonds bought during the year,		36 90	
		$49,745 99	
Premium paid for bonds—charged off,	$112 80		
Accrued interest paid on bonds—charged off,	20 71		
		133 51	
			$49,612 48

INVESTMENTS.

City of Springfield bonds,	$31,000 00	
Railroad bonds,	10,000 00	
Cash in bank at interest,	8,612 48	
		$49,612 48

STREET, SCHOOL, AND SEWER LOAN, 1907.

Loan $125,000, 4% bonds, November 1, 1907, 10 years.

RECEIPTS.

Amount on hand at last report,	$48,616 77
Appropriation of City Council received November 10, 1912,	11,500 00
Interest on investments,	2,078 80
Addition of difference between price paid and par value of bonds bought during the year,	15 00
	$62,210 57

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Amount brought forward,		$62,210 57	
Premium paid for bonds—charged off,	$79 20		
Accrued interest paid on bonds—charged off,	204 52		
		283 72	
			$61,926 85

INVESTMENTS.

City of Springfield bonds,	$25,000 00	
Municipal bonds,	1,000 00	
Railroad bonds,	11,000 00	
Mortgage note,	12,000 00	
Cash in bank at interest,	12,926 85	
		$61,926 85

RECAPITULATION.

Surplus balance from Water Department, received December 21, 1911,	$9,952 96	
Appropriation of City Council received November 10, 1912,	71,000 00	
Interest on investments,	38,618 71	
Addition of difference between price paid and par value of bonds purchased during the year,	256 95	
Total revenue,	$119,828 62	
Amount on hand at last report,	968,067 33	
	$1,087,895 95	
All premiums paid for bonds bought during the year—charged off,	$1,093 53	
Accrued interest paid on all bonds bought during the year—charged off,	1,615 83	
	2,709 36	
		$1,085,186 59

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INVESTED AS FOLLOWS:

City of Springfield bonds,	$547,500 00
Bonds and notes—Municipal,	127,250 00
Railroad bonds,	236,000 00
Street Railway bonds,	59,000 00
Mortgage notes,	24,000 00
Cash in bank at interest,	91,436 59
	$1,085,186 59

Respectfully submitted,

ROBERT O. MORRIS,
A. WILLARD DAMON,
A. B. WALLACE,
Commissioners.

ELIPHALET T. TIFFT,
Treasurer.

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BOARD OF ALDERMEN, December 9, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 9, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 10, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 10, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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CITY TREASURER'S REPORT.

NOVEMBER 30, 1912.

With Certificate of City Auditor Attached.

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CITY TREASURER'S REPORT.

CITY OF SPRINGFIELD, MASS.
CITY TREASURER'S OFFICE, December 30, 1912.

To His Honor, the Mayor, and the City Council:—

I have the honor to submit herewith the annual report of the City Treasurer, showing the operation and condition of the City Treasury and Sinking Funds; and presenting other information relative to finances of the City of Springfield for the fiscal year ending November 30, 1912, this being the first report made under the new classification installed by the Bureau of Statistics, Commonwealth of Massachusetts.

The total operations of the City Treasury for the fiscal year 1912 are summarized as follows:—

RECEIPTS.		PAYMENTS.	
Cash receipts from Revenue sources,	$4,114,352.33	Cash payments for Revenue purposes,	$4,043,752.91
Cash receipts from Non-Revenue sources, ...	561,628.44	Cash payments for Non-Revenue purposes, ...	759,203.08
	$4,675,980.77		$4,802,955.99
Cash balance at beginning of period,	1,127,369.20	Cash balance at end of period, ..	1,000,393.98
	$5,803,349.97		$5,803,349.97

The following statement gives more detail in reference to receipts and payments.

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REVENUE CASH RECEIPTS.

Temporary loans in anticipation of taxes,	$750,000.00	
From City Collector:—		
Taxes of 1910,	24,141.49	
Taxes of 1911,	384,148.03	
Taxes of 1912,	1,919,846.83	
Water Rents and miscellaneous bills,	420,324.36	
Excise tax, Springfield Street Railway Company,	14,584.19	
Street watering taxes of 1910,	463.74	
Street watering taxes of 1911,	6,479.09	
Street watering taxes of 1912,	22,885.30	
Sundry collections of departmental bills,	113,561.22	
From State Treasurer:—		
Corporation tax, balance of 1911,	13,933.31	
Corporation tax, on account of 1912 (public service),	76,141.22	
Corporation tax, on account of 1912 (business),	98,205.82	
Corporation tax, Springfield Street Railway Company,	28,495.87	
National Bank tax, 1912,	5,075.66	
Reimbursement of State and Military aid and Soldiers' burials, paid in 1911,	14,056.00	
County Treasurer, dog fund of 1911,	4,707.69	
Licenses, liquor and all others,	148,529.73	
Interest, bank balances, taxes, etc.,	28,901.43	
High Schools' lunch fund, sale of lunches,	12,111.47	
Police department, fines,	11,903.10	
Sundry departmental receipts,	15,856.78	
Total Revenue receipts,		$4,114,352.33
Cash on hand November 30, 1911,		151,474.16
		$4,265,826.49

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REVENUE CASH PAYMENTS.

Payments in Revenue and special Revenue accounts as per Treasurer's Warrants, Nos. 1 to 90 inclusive,	$4,043,752.91	
Total Revenue payments,		$4,043,752.91
Cash on hand November 30, 1912,		222,073.58
		$4,265,826.49

NON-REVENUE CASH RECEIPTS.

Municipal Building loan, 4 per cent. serial bonds,	$525,000.00	
Premium on Municipal Building loan bonds,	13,476.75	
Sale of Bond Street Engine House,	11,500.00	
Springfield Street Railway Company, part of the cost of laying out Locust Street as per agreement,	10,000.00	
Court Square Extension, interest on fund, etc.,	1,164.61	
Sundry receipts in Non-Revenue accounts,	487.08	
Total Non-Revenue cash receipts,		$561,628.44
Cash on hand November 30, 1911,		975,895.04
		$1,537,523.48

NON-REVENUE CASH PAYMENTS.

Payments in Non-Revenue accounts as per Treasurer's Warrants, Nos. 1 to 90 inclusive,	$759,203.08	
Total Non-Revenue cash payments,		$759,203.08
Cash on hand November 30, 1912,		778,320.40
		$1,537,523.48

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AVAILABLE CASH.

Total cash on hand November 30, 1912,..	$1,000,393.98	
Unexpended balances in Non-Revenue cash accounts,.....	778,320.40	
Revenue cash balance,.....		$222,073.58
Unexpended balances in special Revenue accounts,.....		90,418.06
Unappropriated cash at beginning of fiscal year, 1913,.....		$131,655.52

TEMPORARY LOANS
MADE IN 1912 IN ANTICIPATION OF TAXES.

June 11—	$400,000	due November 6, Morgan & Bartlett, New York, discounted at.....	3.43%
July 26—	250,000	due November 7, Morgan & Bartlett, New York, discounted at.....	4.05%
Sept. 12—	50,000	due November 4, Union Trust Co., Springfield, rate per annum.....	4.50%
Sept. 13—	50,000	due November 4, Third National Bank, Springfield, rate per annum.....	4.50%
Total....	$750,000		

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STATEMENT OF DEBT AND SINKING FUNDS, 1912.

	Total Net Debt.	Total Water Debt.	Net Water Debt.	Total City Debt, within limit.	Net City Debt, within limit.	City Debt, outside limit.	Sinking Funds, General.	Sinking Fund, Water.
November 30, 1911.	$5,582,832.67	$2,443,000.00	$2,234,468.89	$3,133,900.00	$2,374,363.78	$974,000.00	$759,536.22	$208,531.11
Bonds issued in 1912						525,000.00		
Debt paid in 1912..		60,000.00		102,200.00		27,000.00		
Water Dept., Surplus of 1911.....								9,952.96
Earnings of Water Works Sinking Funds								8,233.23
Appropriation for General Sinking Funds							71,000.00	
Earnings of General Sinking Funds....							27,933.07	
Increase in Net and City Debt, outside limit.....	218,680.74					498,000.00		
Decrease in Water and City Debt, within limit.....		60,000.00	78,186.19	102,200.00	201,133.07			
November 30, 1912.	5,801,513.41	2,383,000.00	2,156,282.70	3,031,700.00	2,173,230.71	1,472,000.00	858,469.29	226,717.30

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STATEMENT OF THE FUNDED DEBT AND SINKING FUNDS.

LOANS. NAME AND DESCRIPTION.	Date of Issue.	INTEREST. Rate per Cent	Payable.	PRINCIPAL. When Due.	Outstanding.	Sinking Funds.
City Hall Loan, 1907, Reg.	1907	4	J. and J.	July 1, 1908 to July 1, 1927. $9,000 even years, $8,000 odd years.	$127,000 00	
Fire Dept. Loan, 1906	1906	4	May and N.	Nov. 1, 1907 to Nov. 1, 1916. $4,000 annually	16,000 00	
Fire and Police Buildings Loan, Reg.	1910	4	A. and O.	Oct. 1, 1911 to Oct. 1, 1930. $17,000 annually	306,000 00	
Locust Street Extension	1911	4	A. and O.	Oct. 1, 1912 to Oct. 1, 1921. $2,000 annually	18,000 00	
Municipal Building Loan, Cou. or Reg.	1909	3½	May and N.	Nov. 1, 1910 to Nov. 1, 1949. $15,000 annually	555,000 00	
Municipal Building Loan, Cou. or Reg.	1910	4	May and N.	Nov. 1, 1911 to Nov. 1, 1950. $10,000 annually.	380,000 00	
Municipal Building Loan, Cou. or Reg.	1912	4	May and N.	$14,000 due Nov. 1, 1913 to 1917 inc. and $13,000 Nov. 1, 1918 to 1932 inc.	525,000 00	
North Street Extension, Reg.	1909	4	A. and O.	Oct. 1, 1910 to Oct. 1, 1919. $20,000 annually.	140,000 00	
Public Parks, Reg.	1903	3½	Jne. and D.	June 1, 1923	125,000 00	$59,592 15
Public Buildings Loan	1911	4	A. and O.	Oct. 1, 1912 to Oct. 1. 1931. $16,000 annually.	304,000 00	
River Front Loan, Reg.	1908	4	A. and O.	Oct. 1, 1909 to Oct. 1, 1918. $2,000 annually	12,000 00	
School Bonds, '03, Cou. or Reg.	1903	3½	M. and S.	September 1, 1923	40,000 00	17,577 04
" " Reg.	1895	4	A. and O.	October 1, 1915	35,000 00	31,956 94
" " High "	1897–8	4	J. and J.	January 1, 1917	370,000 00	279,025 08
" " " "	1897	4	J. and J.	July 1, 1898 to 1917. $4,500 annually	22,500 00	
" " " "	1896	3½	J. and J.	July 1, 1899 to 1918. $4,200 annually	25,200 00	
" " Kensington Avenue, 1908 Reg.	1908	4	A. and O.	Oct. 1, 1909 to Oct. 1, 1928. $5,500 annually	88,000 00	
" " Lincoln	1909	4	A. and O.	Oct. 1, 1910 to Oct. 1, 1929. $5,000 annually	85,000 00	
" " Reg	1898	3½	J. and J.	July 1, 1899 to 1918. $4,500 annually	27,000 00	
" " 1900 "	1900	3½	Jne. and D.	December 1, 1919	20,000 00	83,323 21
" " 1900 Cou. or Reg.	1900	3	Jne. and D.	June 1, 1920	125,000 00	
" " 1901 Reg.	1901	3½	Mch. and S.	September 1, 1921	125,000 00	66,325 98
" " 1902 "	1902	3½	A. and O.	October 1, 1922	55,000 00	25,253 81
" Technical High "	1905–6	3½	J. and J.	January 1, 1925	342,000 00	135,015 33
" White Street "	1905	3½	J. and J.	January 1, 1925	54,000 00	
School Loan, 1906 Cou. or Reg.	1906	4	May and N.	November 1, 1926	207,000 00	49,612 48
Sewer Bonds, Cou. or Reg.	1900	3	Jne. and D.	June 1, 1930	142,000 00	48,860 42
" " 1901 Reg.	1901	3½	Mch. and S.	Sept. 1, 1902 to 1926. $1,000 annually	14,000 00	
Sewer Loan, 1904 "	1904	3½	F. and A.	Aug. 1, 1905 to 1924. $2,000 annually	24,000 00	
Sewer Loan, 1908 "	1908	4	A. and O.	Oct. 1, 1909 to Oct. 1, 1928. $2,500 annually	40,000 00	
Street, School and Sewer Loan, 1907 Reg.	1908	4	M. and N.	November 1, 1917	125,000 00	61,926 85
Water Street Extension and Rifle Range, 1908 Reg.	1908	4	A. and O.	Oct. 1, 1909 to Oct. 1, 1918. $5,000 annually	30,000 00	
Water Bonds. Coupon	1890	3½	A. and O.	October 1, 1920	125,000 00	
" " "	1893	4	A. and O.	April 1, 1913	200,000 00	226,717 30
" " "	1893	4	A. and O.	October 1, 1923	150,000 00	
" " Little River, Cou. or Reg.	1907	4	J. and J.	Jan. 1, 1910 to Jan. 1, 1936. $10,000 annually.	240,000 00	
" " Little River, Cou. or Reg.	1908	4	J. and J.	Jan. 1, 1911 to Jan. 1, 1937. $10,000 annually.	250,000 00	
" " Little River, Cou. or Reg.	1909	3½	J. and J.	Jan. 1, 1912 to Jan. 1, 1938. $40,000 annually.	1,040,000 00	
" " Little River, Cou. or Reg.	1910	3½	J. and J.	Jan. 1, 1913 to Jan. 1, 1939. $14,000 annually.	378,000 00	
Totals					$6,886,700 00	$1,085,186 59

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PURPOSES FOR WHICH FUNDED DEBT WAS CREATED.

Water Works (exempt),			$2,383,000.00
Schoolhouses:—			
Central High,	$370,000.00		
Technical High,	346,500.00		
Other schools,	1,027,000.00		
		$1,743,500.00	
Abbe avenue overhead pass,		62,000.00	
Fire department buildings,		114,800.00	
Fire and Police headquarters,		306,000.00	
Isolation Hospital,		17,100.00	
Locust street extension,		18,000.00	
Municipal heating plant,		74,100.00	
Municipal group, buildings (exempt),		1,460,000.00	
Municipal group, land,		127,000.00	
North street extension,		140,000.00	
Parks and buildings,		159,200.00	
Rifle range,		6,000.00	
River front (exempt),		12,000.00	
Sewers,		240,000.00	
Water street extension,		24,000.00	
Debt exclusive of water debt,			4,503,700.00
Total debt,			$6,886,700.00

The above bonded debt is issued at the following rates of interest:—

$267,000 at 3 per cent. per annum.
2,949,200 at 3½ per cent. per annum.
3,670,500 at 4 per cent. per annum.

Total,.... $6,886,700 at an average interest rate of 3.75 per cent. per annum.

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AMOUNT OF DEBT CITY CAN INCUR, WITHIN STATUTORY LIMIT.

2½ per cent. of average valuation for three preceding years,	$3,294,951.00
Present net bonded debt after deducting exempted debts, water debts, and general sinking funds,	2,173,230.00
Debt city can incur in 1913,	$1,121,721.00
Increase in debt incurring power over a year ago,	547,721.00

The Funded Debt maturing in 1913 totals $416,200. Of this amount $274,000 is Water Debt, of which $200,000 will be provided by the Water Works' Sinking Fund and $74,000 will be paid by receipts of the Water Department. Serial bonds for other purposes fall due to the amount of $142,200, and will be appropriated for and paid from the tax levy.

Respectfully submitted,

ELIPHALET T. TIFFT,
City Treasurer.

I hereby certify that I have examined, in detail, the foregoing abstracts from the accounts of the City Treasurer; that the receipts from various sources, as stated, are correct; that all expenditures are supported by warrants regularly approved by the proper officials, and that the condition of various accounts—including cash on hand and in banks—on November 30, 1912, has been verified by comparison with records of this office.

WILLIAM C. MARSH,
Auditor of Accounts.

SPRINGFIELD, MASS., December 21, 1912.

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BOARD OF ALDERMEN, December 30, 1912.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1912.

Read and concurred.

GEO. J. CLARK, *Clerk.*

Presented to the Mayor, for approval, December 31, 1912.

E. A. NEWELL, *City Clerk.*

MAYOR'S OFFICE, SPRINGFIELD, MASS., December 31, 1912.

Approved.

EDWARD H. LATHROP, *Mayor.*

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CITY ORDINANCES FOR 1912.

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CITY OF SPRINGFIELD.

ORDINANCES OF 1912.

CHAPTER I.

AN ORDINANCE

PROVIDING FOR THE REIMBURSING ANY MEMBER OF THE FIRE DEPARTMENT FOR DAMAGE TO HIS CLOTHING RECEIVED WHILE ON DUTY.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The Commissioners of the Fire Department may in their discretion, at the expense of the City of Springfield, reimburse any member of the Fire Department for damage to his clothing received while on duty.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

Approved March 26, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER II.

AN ORDINANCE

INCREASING THE NUMBER OF PERMANENT MEN AND DECREASING THE NUMBER OF CALL MEN IN THE FIRE DEPARTMENT.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The number of permanent men in the Fire De-

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partment of the City of Springfield is hereby increased by the addition of eleven men. The number of call men in said department is hereby decreased by the dropping from the department of seventeen men.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

SECTION 3. This Ordinance shall take effect April 1, 1912.

Approved April 2, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER III.

AN ORDINANCE

ACCEPTING CHAPTER 210 AS AMENDED BY CHAPTER 625 OF THE ACTS OF 1911, ENTITLED AN ACT RELATIVE TO VACATIONS OF MEMBERS OF POLICE DEPARTMENTS EXCEPT IN THE CITY OF BOSTON.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. Chapter 210 as amended by Chapter 625 of the Acts of 1911 entitled "An Act Relative to Vacations of Members of Police Departments, Except in the City of Boston" is hereby accepted; said Act being as follows:—

SECTION 1. Members of the Police Department of every city and town which shall accept this act as hereinafter provided, except the city of Boston, shall be excused from duty for one day out of every fifteen days, without loss of pay. The time and the manner of excusing members of police departments from duty, in accordance with the provisions of this Act, shall be determined by the Chief, Superintendent, or other officer or board at the head of the Police Department. A member so excused shall be exempt from duty and from attendance at a police station or other place, but otherwise shall be subject to all laws, rules, and regulations relating to members of the department to which he belongs.

SECTION 2. The Chief, Superintendent, or other officer or

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board at the head of the Police Department of any city or town, except the city of Boston, shall have authority, in case of any public emergency, or of any unusual demand for the services of the police in that city or town, to prevent any member of the department from taking the day off herein provided for at the time when he is entitled thereto, or at the time assigned therefor, provided that such day off shall be granted to him as soon thereafter as is practicable. In no case shall the number of days off be less than twenty-four in each calendar year, and they shall be in addition to any annual vacation now or hereafter allowed to members of the said departments, and such annual vacation shall not be diminished on account of the days off herein provided for.

SECTION 3. This act shall take effect in any city upon its acceptance by the city council or corresponding board of the city, and in any town upon its acceptance by the selectmen of the town.

SECTION 2. This Ordinance shall take effect April 1, 1912.

Approved April 2, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER IV.

AN ORDINANCE

ESTABLISHING THE COMPENSATION OF THE CITY ENGINEER.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The compensation of the City Engineer is hereby established at two thousand five hundred dollars per annum.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

SECTION 3. This Ordinance shall take effect April 1, 1912.

Approved April 2, 1912.

Attest: E. A. NEWELL, *City Clerk.*

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CHAPTER V.

AN ORDINANCE

FIXING THE COMPENSATION OF THE CITY PROSECUTING ATTORNEY.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The compensation of the City Prosecuting Attorney for the City of Springfield is hereby established at one thousand dollars.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

SECTION 3. This Ordinance shall take effect April 1, 1912.

Approved April 2, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER VI.

AN ORDINANCE

ESTABLISHING THE COMPENSATION OF THE SUPERINTENDENT OF THE FIRE ALARM.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The compensation of the Superintendent of the Fire Alarm is hereby established at one thousand four hundred and fifty dollars per annum and the additional sum of three hundred dollars per annum for care of the police signal system.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

SECTION 3. This Ordinance shall take effect April 1, 1912.

Approved April 2, 1912.

Attest: E. A. NEWELL, *City Clerk.*

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CHAPTER VII.

AN ORDINANCE

ESTABLISHING THE COMPENSATION OF THE SCHOOLHOUSE AGENT.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The compensation of the Schoolhouse Agent is hereby established at two thousand dollars per annum.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

SECTION 3. This Ordinance shall take effect April 1, 1912.

Approved April 2, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER VIII.

AN ORDINANCE

ESTABLISHING THE COMPENSATION OF THE SUPERINTENDENT OF STREET LIGHTING.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The compensation of the Superintendent of Street Lighting is hereby established at one thousand seven hundred dollars per annum.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

SECTION 3. This Ordinance shall take effect April 1, 1912.

Approved April 2, 1912.

Attest: E. A. NEWELL, *City Clerk.*

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CHAPTER IX.

AN ORDINANCE

RELATIVE TO THE CONSTRUCTION, ALTERATION AND MAINTENANCE OF BUILDINGS IN THE CITY OF SPRINGFIELD.

Be it ordained by the City Council of the City of Springfield, as follows:—

PART I.

ADMINISTRATION.

SECTION 1. There shall be in the City of Springfield a department to be called the Building Department, which shall be under the charge of the Building Commissioner. The Commissioner, who shall have had at least five years' experience as an architect or builder, shall be appointed by the Mayor, for a term of five years. He may be removed for cause by the Mayor. He shall receive such salary as shall be fixed by the City Council.

The Commissioner may, with the approval of the Mayor, appoint such number of inspectors, employes, and assistants as the City Council shall, from time to time, determine.

The Mayor may appoint as Deputy Commissioner an inspector in the department who shall, during the absence or disability of the Commissioner, exercise all the powers of the Commissioner. No officer connected with the department shall engage in any other business or be interested in the doing of work or the furnishing of material for the construction, repair or maintenance of any building, or in the making of plans or of specifications therefor, unless he is the owner of the building or a member of the Board of Appeal.

The Commissioner shall cause to be kept a record of the business of the department, and shall submit to the City Council on or before the first day of January of each year a report of such business. The records of the department shall be open to public inspection. The Commissioner shall, unless in his opinion it is unnecessary, require plans and specifications of any proposed structure or for the alteration of any structure or building to be

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filed with him, in accordance with Part I, Sections 11 and 12, of this Ordinance.

The Commissioner shall grant permits for the construction, alteration, removal, or tearing down of buildings or structures, and for plumbing, wiring, gas fitting, and the setting and maintenance of steam boilers, furnaces, and bake ovens when applications for the same are made and filed in conformity with law.

All permits issued by the Commissioner shall be on printed forms approved by him.

If the Commissioner finds that the terms of a permit are being violated, he may, after notice in writing to the person to whom the permit was issued, order the whole or any part of the work which is being done under the permit, to be stopped, and such work shall not be resumed until the terms of the permit have been complied with.

All applications for permits under the provisions of this Ordinance shall be in writing on forms furnished by the department. The Commissioner may require the material facts set forth in the same to be verified by the oath of the applicant; he may also require, at his discretion, a survey of the lot on which any proposed building is to be erected to be filed with the application. Every application shall state the name and address of the owner.

SECTION 2. The Commissioner, or one of his inspectors, shall examine as often as is practicable, every building in the course of construction or alteration, and shall make a record of all violations of this Ordinance, and of all other matters relative thereto.

SECTION 3. The Commissioner, or one of his inspectors, shall examine any building reported as dangerous or damaged, and shall make a record of such examination, stating the nature and estimated amount of the damage, and the purpose for which the building was used, and in case of fire, the probable origin thereof; and shall examine all buildings in respect to which applications have been made for permits to raise, enlarge, alter, or repair, and shall make a record of every such examination.

SECTION 4. The Commissioner, or one of his inspectors, shall inspect every building or other structure or anything attached to or connected therewith which he has reason to believe is unsafe

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or dangerous to life, limb, or adjoining buildings, and if he finds it unsafe or dangerous, he shall forthwith, in writing, notify the owner, agent, or any person having an interest therein, to secure the same, and shall affix in a conspicuous place upon its external walls a notice of its dangerous condition. The notice shall not be removed or defaced without his consent.

The Commissioner may, with the written approval of the Mayor, order any building, which in his opinion is unsafe, to be vacated forthwith.

SECTION 5. The person notified as provided in the preceding section shall make secure or remove said building, structure, attachment or connection forthwith. If the public safety so requires, the Commissioner, with the approval of the Mayor, may at once enter the building or other structure, the land on which it stands or the abutting land or buildings, with such assistance as he may require, and make secure the same, and may erect such protection for the public by proper fence or otherwise as may be necessary, and for this purpose may close a public highway temporarily.

SECTION 6. The Building Commissioner shall, upon request of the City Council, or either board thereof, or any committee of said council or board, prepare, or cause to be prepared, plans and specifications for any building to be constructed or altered by the City, and shall, upon request of the City Council or the proper officer, board or committee, render any necessary service in relation to the buildings of the City.

SECTION 7. There shall be in said department a board to be called the Board of Appeal. Said board shall consist of three members, including always one architect and one builder, appointed by the Mayor.

Such appointments shall be subject to confirmation by the Board of Aldermen. The appointments first made shall be for the terms of one, two, and three years, respectively, so that the term of one member shall expire each year. All subsequent appointments shall be for the term of three years. Vacancies shall be filled in the same manner in which original appointments are made.

No member shall act in any case in which he is interested, and in case any member is so disqualified, the remaining members

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shall, in writing, filed with the department, designate a substitute.

All members of said board shall be residents of Springfield.

Every decision of the board shall be in writing and shall require the assent of at least two members.

SECTION 8. An applicant for a permit whose application has been refused may appeal therefrom within thirty days. A person who has been ordered by the Commissioner to incur any expense may, within ten days after being notified of such order, appeal therefrom by giving to the Commissioner notice in writing of his appeal. Such notice or a certified copy thereof shall at once be transmitted by the Commissioner to the Board of Appeal. After notice given to such parties as the board shall order, a hearing shall be had, and the board shall affirm, annul or modify said refusal or order.

The decision shall specify the variations allowed and the reasons therefor, and shall be filed in the office of the Commissioner within ten days after the hearing. A certified copy shall be sent by mail or otherwise to the applicant, and a copy kept publicly posted in the office of the Commissioner for two weeks thereafter. If the order or refusal of the Commissioner is affirmed, such order or refusal shall have full force and effect. If the order or refusal is modified or annulled, the Commissioner shall issue a permit in accordance with such decision.

SECTION 9. Methods of construction or maintenance equivalent to those required by the provisions of this Ordinance may be allowed with the written consent of the Commissioner and the Board of Appeal specifying the same. A record of the required and the equivalent method allowed shall be kept in the office of the Commissioner.

It shall be the duty of the Board of Appeal to submit to the City Council on or before the first day of January in each year a report giving a summary of all decisions of the board together with such recommendations for revision of the law as may seem to them advisable.

Any requirement necessary for the strength or stability of any proposed structure or for the safety of the occupants thereof, not

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specifically covered by this Ordinance, shall be determined by the Commissioner, subject to appeal.

All building materials and methods of use shall be of standard quality and character so as to secure, in the judgment of the Building Commissioner, the preservation of life and prevention of fire. The Building Commissioner shall have power to reject all materials or forbid methods which in his opinion do not comply with this Ordinance, and may require tests to be made by the architect, engineer, builder or owner to determine the strength of the structural materials and effectiveness of methods used before or after they are incorporated in a building, and may require certified copies of results of tests made elsewhere from the architect, engineer, builder, owner or other interested persons.

SECTION 10. The provisions of this Ordinance shall not apply to bridges, nor to buildings on land ceded to the United States or owned and occupied by the Commonwealth, nor to the Hampden County, Court House, Jail, or House of Correction.

Terms of present officials and employes of the building department shall not be affected by any of the foregoing provisions.

APPLICATION FOR BUILDING PERMIT AND FILING PLANS.

SECTION 11. No building shall be erected, altered, repaired, or moved without the permission of the Commissioner, and in accordance with the terms of this Ordinance. Before any person, owner, agent, builder, or building mover shall erect, alter, repair, or move any building or structure, or commence excavation therefor, he shall make application at the office of the Commissioner for a permit for that purpose, furnishing a written statement of the proposed location of the building, its character, use, location on the premises, the full name and address of the owner, and whether any existing building is to be demolished. The applicant shall, unless otherwise ordered, also furnish the Commissioner with a copy of the general drawings, plans and specifications of such proposed erections, alterations or repairs, which shall sufficiently show the character and extent thereof, and the purpose of the builder to comply with this Ordinance. Said plans shall be left

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with the Commissioner a sufficient length of time for proper examination and approval, and a copy of the plans of all buildings, except as otherwise stated in this section, shall be filed permanently with the Commissioner, but said plans when filed shall be kept exclusively for the use of the Commissioner's office, and shall not be for public inspection. Plans and specifications of any building erected, altered or repaired hereunder, not left on file, shall be open to the inspection of any authorized employe of the Commissioner's office at all reasonable times, and no person shall make any changes in such plans, or in the structural parts of such buildings, alterations or repairs, without the written consent of the Commissioner. The provisions of this Ordinance do not apply to ordinary "repairs" as defined therein, for which no permit is necessary, though notice to the Commissioner is advisable in all cases. For buildings ten thousand dollars or less in value the Commissioner may or may not require plans to be filed permanently.

GRANTING PERMITS FOR BUILDINGS; REVOCATION.

SECTION 12. If it shall appear from said application and plans that the Ordinances of said City are, and will be complied with, a permit shall be granted by the Commissioner, authorizing such erection, alteration, repair or moving. Such permit shall contain the names and address of the owner or owners of the building, the date of granting the permit, and the time when the same shall expire, together with the estimated cost of said building, its character and use, dimensions and location on the premises. No such permit shall be in force after the expiration of six months from the date when granted, unless within that time the person to whom the permit was issued shall have commenced the erection, alteration or repair authorized by said permit. A correct record shall be kept of all permits granted. The Commissioners shall have full power to revoke and cancel any permit or certificate or approval granted, in case the person to whom the same is issued fails to comply with the provisions of this Ordinance.

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PART II.

PLUMBING.

SECTION 1. The Building Commissioner shall have control of the supervision and inspection of plumbing, and shall enforce all laws, Ordinances and rules in relation thereto. Said Commissioner shall establish such rules and regulations in regard to plumbing as he may deem necessary, subject to the approval of the Board of Health.

SECTION 2. No pipes, tanks, faucets, valves or fixtures by and through which waste water or sewage is used or carried shall be placed in any building except upon such terms and conditions as the Building Commissioner may prescribe, and upon a permit being first issued therefor by said Building Commissioner or such person or persons as the Building Commissioner may designate. Applications for such permits shall be made to the Building Commissioner upon blanks provided for the purpose by said Building Commissioner, which shall contain a statement of the work to be performed, location of building and names of the persons for and by whom the work is to be done. Each permit issued by the Building Commissioner shall be subject to the express condition set forth in such permit, that all work done under it shall be done in a thorough and workmanlike manner, and that all directions of the Building Commissioner relating to such work, and all provisions of statute or ordinance relating to plumbing, shall be complied with.

SECTION 3. In all cases where the drainage system of any building is required to be or has been constructed under a permit issued by the Building Commissioner, no person shall proceed to construct, add to or alter any portion of the drainage system of such building (except solely by way of repairs) until there be filed in the office of the Building Commissioner a notice or written description of the work to be performed. No person shall commence work upon such drainage or plumbing until plans are approved by said Building Commissioner. After a plan has been approved under the provisions of this Ordinance, no alteration

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of the same shall be made without permission in writing from the Building Commissioner.

SECTION 4. An inspector of plumbing, who shall be called upon to examine any work under the statutes or Ordinances relating to plumbing, shall be notified when such work is ready for inspection, and all work must be left uncovered and convenient for examination until examined and approved.

SECTION 5. Whoever violates any provision of this Ordinance shall be liable to a penalty not exceeding Fifty ($50) Dollars for each and every violation thereof, and whoever being a licensee for plumbing violates any statute, Ordinance, or regulation of the Building Department relating to plumbing shall be subject to have his license revoked.

The provisions of Chapter 103 of the Revised Laws are hereby accepted and adopted.

PART III.

ELECTRICAL INSTALLATIONS AND INSPECTIONS.

NOTIFICATION AND RECORDS.

SECTION 1. Before commencing or proceeding with the installation of any electrical apparatus, wires, conduits, or furnishings for electric lighting, heating, or power, or altering or extending any system of wiring already installed, either within or on a building, the Building Department must be notified. Records of all wiring installed shall be filed with the Building Department. Blank forms for records will be furnished by the Commissioner.

CONNECTION AND CURRENT.

SECTION 2. In no case shall a current of electricity be connected with any system of wiring or apparatus intended to be used for power, heating, or lighting until permission has been obtained and a written permit granted by the Commissioner. This applies to all public or private electrical systems that are now or may hereafter be installed,—except in federal, state, and county buildings.

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ADDITIONS.

SECTION 3. When additions are made to existing installations, either by extension of wiring or increase in load, additional conductor capacity must be provided to bring the entire installation within the requirements.

METERS.

SECTION 4. Arrangements for location of meters must be made in some easily accessible place, and not in bathrooms, bedrooms, living rooms, kitchens, private halls, clothes closets, or over windows.

FITTINGS.

SECTION 5. In or on outdoor work, such as signs or decorative work of any kind, all terminals must be at least one inch from any woodwork, and must be thoroughly soldered, insulated, and painted with waterproof paint. An approved outlet box or plate will be required for all outlets in concealed knob and tube work.

SERVICE CONNECTION.

SECTION 6. Unless meter or meters are located within six (6) feet of the main service entrance, a complete conduit or armored conductor system must be installed for branch service mains from original service switch to meter or meters of each consumer.

Get instructions from the local Electric Light Company relative to the service, voltage, etc., at the proposed location.

Aerial service wires, in pipe or otherwise, must not be concealed in walls or partitions before entering cut-out and switch.

Service wires shall at all times be not smaller than No. 10 B. & S. gauge from street mains to entrance of service cut-out and meter or meters.

CUT-OUT CABINETS.

SECTION 7. At each center of distribution where inflammable material or rubbish is stored, or where the Inspector deems it necessary, there shall be an approved cut-out cabinet located in an easily accessible place, doors to cabinets to be self-closing or to have lock and key as directed by the Inspector.

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Special Wiring.

Section 8. Motors, heating apparatus, vacuum cleaners or electric flatirons requiring a current above 2½ amperes shall not be attached to key or pull sockets, and if requiring above six amperes shall not be attached to any keyless socket. When the above or similar devices are used, except in accordance with the above rating, they must be connected to a separate wiring system.

Switches.

Section 9. When switches are located in position, where the operator is liable to be in contact with the ground, either directly or indirectly, the switch must be of such character that the person of the operator will be absolutely protected when handling such switch.

Ground Wires.

Section 10. Ground wires for interior conduits and armored cables shall be as required by the Inspector, proportioned to the size of service wires, but never less than No. 10 B. & S. gauge, insulated copper wire.

Signs.

Section 11. Electric signs on buildings must be constructed and wired in a manner satisfactory to the Commissioner.

Connections to signs must be made in rigid metal conduits or in specially encased conductors.

Requirements.

Section 12. All installations of wires or apparatus for light, heat or signaling systems must conform to the requirements of the current edition of the "National Electric Code."

Cutting Openings, Etc.

Section 13. Whenever a hole is cut in a wall for the extension of wires it must be properly closed and cemented.

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Inspections.

Section 14. When any work is completed or ready for inspection the Building Department must be notified immediately.

Wiring or fittings shall not be lathed in, covered or concealed from view, until approved by an Inspector of Wires, who shall examine the same within two working days after receiving notice that the work is complete or ready for inspection; otherwise the covering must be removed, if required by the Inspector.

GAS FITTING.

Permits.

Section 15. No person or persons shall hereafter construct, extend or alter any system of pipes for the conveyance, distribution or use of illuminating or fuel gas in any building or structure without a permit from the Building Commissioner except in conformity with the provisions of this Ordinance.

Gas Mains and Meters.

Section 16. All gas mains entering any building shall be thoroughly cemented into the wall and any service pipe over two (2) inches in diameter shall have a shut-off near the curb line. Gas meters shall not be placed underneath any stairway or in any clothes or storage closet or in the dead space between floors under show windows, and when located in any cellar or basement such location shall not be in any boiler or furnace room, but they shall be placed close to the front wall, at least four (4) feet above the floor, as near a window as possible, with an unobstructed passage leading thereto.

All meters, mains and shut-offs within a building shall be located in an accessible, natural lighted place in the basement, if possible, and when the location of same in the basement is impracticable, they shall be grouped on their respective floors for all floors above the first.

There shall be a brass straightway cock or valve on the service

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pipe close to foundation wall, and one at the inlet side of each meter. Iron valves shall not be used.

Size of Pipes.

Section 17. The size of pipe used for illuminating purposes shall not be less, nor the length greater to the number of outlets stated than those specified in the following table, except that if the number of outlets is not more than half the stated maximum, the length of the run may be increased fifty per cent.

Diameter.	Greatest length allowed.	Greatest number of outlets.
⅜ inch.	10 feet.	2
½ inch.	30 feet.	6
¾ inch.	60 feet.	20
1 inch.	80 feet.	35
1¼ inches.	120 feet.	60
1½ inches.	160 feet.	100
2 inches.	200 feet.	200
2½ inches.	300 feet.	300
3 inches.	450 feet.	450
4 inches.	600 feet.	600

But no riser from a meter shall be less than three-quarter (¾) inch pipe.

The supply pipe for a gas range, water heater or gas log shall not be smaller than three-quarter (¾) inch, and all gas ranges and heaters shall have a straightway valve or cock on service pipe.

Location of Pipes.

Section 18. Water heaters and gas logs must be provided with suitable pipes and flues for carrying off the elements of combustion. (See Part VII, Sec. 76.)

Locate risers so that the meters will not have to be placed in boiler or furnace rooms nor exposed to dampness, frost, or where they are likely to be damaged from any cause.

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Risers must also terminate near where the meter is to be located.

In buildings containing two or more tenements or stores, where no meter rooms can be provided, terminate riser so that meters can be set in the basements of the respective premises to be supplied, but arranged so as to require the least amount of service extension to reach them.

When two or more risers are run to meter rooms or spaces, they must be spaced not less than fifteen (15) inches nor more than twenty-four (24) inches apart where meters are to be set.

Extend all risers to locations provided for meters.

Pipe and Fittings.

Section 19. All pipe shall be of the best quality of wrought iron or steel pipe.

Fittings two (2) inches in diameter or less shall be of malleable iron; larger fittings may be of cast iron. The use of bushings is prohibited.

Joints shall be made with white lead in oil applied to the pipe threads only.

No second-hand pipe shall be used, except that when a building is undergoing reconstruction or repairs such gas pipe as is taken out and found in good condition may be re-run.

Supports and Grades.

Section 20. All pipes shall be suitably supported and stayed with pipe hooks, straps and screws.

All pipes shall be properly graded, and if practicable toward the meter.

A bracket outlet shall preferably be run as a riser rather than as a drop. Branches must be taken from the side or top of fittings.

No gas pipes to be run on bottom of joists, except between furrings, unless absolutely necessary.

All piping to be arranged so that all notches necessary to be cut in the joists will come near the points where joists are supported.

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Risers.

Section 21. The rising line of pipes in all buildings shall be carried upon inside partitions out of reach of frost, and shall be placed where the stop-cock is readily accessible. In buildings of large undivided floor spaces the risers shall be run exposed at least six (6) feet distant from any window.

Drops and Outlets.

Section 22. All drops left for lights must be arranged and secured so they will not screw out when fixtures are taken down. They must project at least three-quarters (¾) of an inch and not more than one (1) inch from the face of finished work or ceiling, and perpendicular to it. They must be rigidly secured either to the floor joists or to cross pieces nailed between the joists.

Every drop must be tried to insure that the thread on it is straight, and the drop secured so that the fixture attached to it will hang plumb.

Side outlets to project three-quarters (¾) of an inch from face of finished work or plaster and must be so rigidly fastened in place that they will not work loose with the use of the fixtures attached to them.

Stop Pins.

Section 23. All stop pins to keys or cocks or fixtures shall be screwed in place.

Capping and Inspection.

Section 24. After the piping is installed all openings shall be closed with iron caps and all unused outlets shall be kept capped. All split pipe or defective fittings shall be removed and no pipe or fitting repaired with cement or lead will be allowed. No gas fitter's cement or wax shall be used except in assembling fixtures. All pipes shall be examined and tested before they are concealed, and due notice shall be given by the fitter to the Building Department when any piping is ready for inspection.

Upon completion of the piping cement all holes in walls which have been cut for extending gas piping.

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Tests.

Section 25. Every new or enlarged system of gas piping shall be air tested by the gas fitter under the direction of an Inspector appointed by the Building Commissioner; first, when the roughing-in is completed and before the lathing and plastering is begun; and, second, when the entire building is completed and the work ready for the gas fixtures.

The tests shall be made by having all openings closed and subjecting the piping to an air pressure test that will support a column of mercury ten (10) inches in height at least fifteen (15) minutes.

Spring or steam gauges are not to be used in testing.

After the fixtures are all in place there shall be a final test of all fixtures and pipes by two (2) inches of mercury, which must stand five (5) minutes. This test to be made in the presence of the Inspector.

On proof of a satisfactory test the Inspector shall issue a certificate of inspection to the fitter, covering said work.

Gas Brackets.

Section 26. All gas burners shall be placed at least three (3) feet below any ceiling or woodwork unless the same is properly protected by shields, in which case the distance shall be not less than eighteen (18) inches.

No swinging or folding gas bracket shall be placed against any stud partition or woodwork. No gas bracket on any lath or plaster partition or woodwork shall be less than five (5) inches in length, measured from the burners to the plastered surface or woodwork, and shall be at least two (2) inches from any door or window casing. No outlet shall be placed behind any door or within four (4) feet of any meter.

Hose Outlets.

Section 27. No independent connection for a hose outlet shall be placed above the stiff joint on any chandelier or pendant, but such connection shall be brought down to an accessible point.

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Extensions and Alterations.

Section 28. Where any material extensions or alterations are to be made the work shall be done in conformity to the provisions of this Ordinance.

No extension or alteration of any existing system of gas piping in a building in excess of fifteen (15) feet, and unless the same is entirely exposed, shall be made without reporting the same to the Building Commissioner.

Extensions shall conform to the sizes given in the table, and shall be made from the largest practicable outlet.

Condemnation and Removal.

Section 29. The Commissioner shall promptly condemn and order the removal, reconstruction or repair of any system of gas piping, or portion thereof, which does not conform to these regulations. He shall order the necessary repairs to be made when defects are found in any existing system of gas piping or fixtures connected therewith, and such repairs shall be promptly made by the responsible party upon receipt of order or notice.

PART IV.

Definitions.

Section 1. Terms used in this Ordinance shall be construed as follows, unless a different meaning is clearly apparent from the language or context, or unless such a construction is inconsistent with the manifest intention of the City Council.

"Material changes," "material alterations," "material repairs," shall mean any changes, alterations or repairs affecting the strength of a building, or any part thereof, or the safety of the occupants therein, or the fire risk thereon.

"First class building" shall include any building which conforms to the following requirements:—

(1) It shall consist of fireproof material throughout, except that wood may be used for under and upper floors, window and door frames, sashes, doors, interior finish, hand rails for stairs,

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necessary sleepers embedded in the cement and for isolated furrings embedded in mortar.

(2) It shall have no air space between the top of any floor arches and the floor boarding, nor behind any woodwork.

"Second class building" shall include any building not of the first class whose external and party walls are constructed of brick, stone, iron, steel, concrete, reinforced concrete, concrete blocks or other equally substantial and incombustible material.

"Mill construction," when the inclosing walls and roof covering are made of incombustible materials, with doors, windows and frames of wood, but with interior walls of brick, or wood columns and girders, and the floor and roof systems composed of heavy timbers and plank with no concealed air spaces between.

"Third class building" shall include any wooden frame building or any building partly of the second class and partly of wooden construction.

"Height of a building" shall mean the vertical distance of the highest point of the roof above the mean grade of the curbs of all the streets upon which it abuts, and if does not abut on a street. above the mean grade of the ground adjoining the building.

"Story of a building" shall mean that part of a building between the top of any floor beams and the top of the floor or roof beams next above.

"Attic" shall mean the space between the top story and a pitched roof.

"Party wall" shall mean a wall that separates two or more buildings and is used or adapted for the use of more than one building.

"Thickness of wall" shall mean the minimum thickness of such wall.

"Foundation" shall mean that part of a wall below the level of the street curb, or, if a wall is not on a street, that part of the wall below the level of the highest ground next to the wall, or, if so construed by the Commissioner, that part of a party or partition wall below the cellar floor.

"Basement" shall mean that story of a building not more than forty per cent. of which is below the grade of the street.

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"Cellar" shall mean that part of a building more than forty per cent. of which is below the grade of the street, and in third class buildings that part of a wooden building which is below the sills.

"Gas fitting" shall mean the work of putting together any fittings, pipes or fixtures, or other appliances which are intended to contain gas for heat, light or power purposes.

"Tenement house" shall include any house, building, structure or portion thereof occupied or adapted for occupation as a dwelling for more than three families living independently of one another.

"Existing tenement house" shall include any building erected as such or converted to such use or as altered for such use or so used before the passing of this Ordinance, and any building adapted for such purpose provided the erection of said building occurred before the passing of this Ordinance.

"Tenement house hereafter erected" shall include any tenement house other than existing tenement houses as above defined.

"A shaft," whether for air, light, elevator, dumb waiter or any other purpose, is an inclosed space within a building, extending to the roof, and covered either by a skylight or by the roof.

"A vent shaft" is a shaft used solely to ventilate or light water closet compartments or bathrooms.

"A public hall" is a hall, corridor or passageway not within an apartment.

"A stair hall" includes the stairs, stair landings and those parts of the public hall through which it is necessary to pass in going from the entrance floor to the top floor.

"An apartment" is a room, or suite of two or more rooms, occupied or suitable for occupation as a residence for one family.

"Repairs" shall mean any renewal of any existing part of a building, or of its fixtures or appurtenances, which does not lessen the strength of the building.

Fire Limits.

Section 2. The territory comprised within the limits of the City of Springfield is hereby established as a building district under the provisions of Chapter 126 of the Acts of 1873.

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SECTION 3. For the purpose of securing the prevention of fire in the City of Springfield the territory comprised within the following limits is hereby established as a fire district:—

The fire district of the City of Springfield shall include all that part of the City bounded as follows: Beginning at the east bank of the Connecticut river, at the north bank of Mill river, thence northerly along the east bank of said Connecticut river to the North End bridge, so called, thence easterly along the south line of West street across the tracks of the Connecticut River Railroad Company (Boston & Maine Railroad, lessees), to and through Arch street, across Main street, thence through Jefferson avenue to Chestnut street, thence southerly through Chestnut street to the Boston & Albany Railroad Company's bridge, thence easterly along the land of said Boston & Albany Railroad Company, to a point opposite Spring street, thence southerly to and through Spring street to Pearl street, thence easterly through Pearl street to Byers street, thence southerly through Byers street to and across State street, thence through Myrtle street to High street, thence easterly through High street to Ingraham avenue, thence southerly through Ingraham avenue to Union street, thence easterly through Union street to Mulberry street, thence southerly through Mulberry street and following the line of land owned by the Springfield Cemetery Association to Cemetery avenue, thence westerly through Cemetery avenue to Maple street, thence southerly through Maple street and extending to Mill river, thence along the north bank of Mill river to the point of beginning, and also including all the lots and parcels of land within one hundred and fifty feet of the center lines of the streets above mentioned.

PART V.

WITHIN THE FIRE LIMITS.

SECTION 1. Unless their operation is expressly limited or extended therein the regulations and provisions contained in Part V of this Ordinance shall be applicable only within the territory comprised within the fire district.

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Boiler Rooms—Garages.

Section 2. Every boiler room in a building, where ten or more persons are employed or lodged above the second story, shall be enclosed by brick walls, and the ceiling, unless of fireproof construction, shall be lathed with coated metal lath not lighter than 24 gauge, and plastered with hard plaster not less than three-quarters of an inch thick. Every building used as an automobile garage and storing more than four automobiles, except private garages, shall be constructed as a first class building.

Frame Buildings Altered.

Section 3. No frame building now used as a dwelling house shall be hereafter raised or altered to be used as a factory, warehouse or stable.

Frame Buildings in Fire District.

Section 4. A frame building may be constructed on a vacant lot provided the same be not more than two stories and basement and attic, under pitched roof, in height, to be used for residence purposes only, if in the opinion of the Building Commissioner the fire risk will not thereby be increased.

Frame Buildings Near Lot Lines.

Section 5. No part of such frame building except the cornice shall be nearer than six feet to the line of adjoining lot, or nearer than twelve feet to any other building on the same lot, unless the side wall or walls of such building are constructed as a solid wall of brick or concrete or other incombustible material, not less than eight inches thick, and carried twelve inches above the roof.

Third Class Buildings in Fire District.

Section 6. Except as otherwise provided in Section 2 of Part V buildings may be constructed as second class buildings, but no building shall be constructed as a third class building unless

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expressly authorized by the provisions of Sections 4, 8 and 9, Part V, of this Ordinance.

FIRE WALLS—HOW BUILT.

SECTION 7. Fire walls of brick, not less than twelve inches thick, except for buildings allowed with eight-inch walls, shall be built, extending above the roofs of all buildings, if such roofs are flat, and also above the roofs of all buildings where the same abut against another building, or where the same stand upon any line of any lot, excepting street and alley lines. Such fire walls, where they stand upon lot lines, or where they are over party or division walls between buildings, shall extend at least two feet above the roof of such buildings. Fire walls upon street and alley lines may be dispensed with in all cases where finished with cornices, gutters or crown mouldings, or where the entire framing and material of the roof shall be made strictly fireproof. All fire walls shall be capped with stone, terra cotta, cast iron, sheet metal or equally fireproof material.

INCREASING HEIGHT OF FRAME BUILDINGS.

SECTION 8. No wooden building shall be altered so as to increase the height to more than two stories and attic.

WOODEN BUILDINGS DAMAGED BY FIRE.

SECTION 9. A wooden building damaged by fire or other casualty to the extent of not more than fifty per cent. of the present value may be repaired or restored so as to conform to its original condition, if in the judgment of the Building Commissioner the prevention of fire and the preservation of life are thereby secured. Otherwise it shall be reconstructed so as to conform to the provisions of this Ordinance.

MOVING WOODEN BUILDINGS.

SECTION 10. An existing wooden building may be removed from one position in the fire district to another position in the

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same district if in the opinion of the Building Commissioner the fire risk is not thereby increased, but no wooden building shall be removed from outside the district to the territory within the district. The distance to lot lines and adjoining buildings shall be as given in Section 5, Part V.

Ceilings Lathed and Plastered.

Section 11. In all tenement houses of the second class hereafter erected, the cellar and basement ceilings shall be lathed with coated metal lath not lighter than 24 gauge, and plastered not less than three-quarters of an inch thick.

PART VI.

Outside the Fire Limits.

Section 1. Unless their operation is expressly limited or extended therein, the regulations and provisions of Part VI of this Ordinance shall be applicable only to the territory outside of the fire district and within the City of Springfield.

Wooden Tenement Houses.

Section 2. A tenement house not exceeding three stories, including the attic, in height, may be constructed as a third class building. No existing tenement house or building of the third class shall be increased in height so as to exceed three stories above the basement or cellar or to exceed forty feet in height.

Distance from Wall of Building to Line of Lot.

Section 3. No building of the third class shall be placed less than twenty-four inches from the lot line, and if more than one story high, shall not be placed within three (3) feet of the lot line, nor within six (6) feet of another building of the same class, on the same lot.

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AREA OF WOOD TENEMENT HOUSES.

SECTION 4. Tenement houses not exceeding three stories in height above the basement, nor over two thousand square feet in area, may be erected of wood, except that the area may be increased when fire walls are built as provided in Part V, Section 7. Rear verandas for wooden tenement houses may be of open wood construction in general compliance with Section 71, Part VII, of this Ordinance as to exterior stairways.

GARAGES—AUTOMOBILES IN BUILDINGS USED FOR HABITATION.

SECTION 5. Garages with space for four or more automobiles, if built within fifteen (15) feet of a wooden building, or of the lot line, shall be of fireproof construction. When any rooms in tenement houses and buildings for habitation are to be used for storage or sale of automobiles, they shall be of fireproof construction, and all stairs or vertical openings shall be protected with wire glass and other tight fireproof inclosure.

WOODEN FACTORIES, STABLES, ETC.

SECTION 6. Buildings adapted and used exclusively for manufacturing, storage, mechanical or stable purposes may be of the first or second class and may be of the third class if in the opinion of the Building Commissioner the construction as a third class building will secure the prevention of fire and the preservation of life, but no such building if constructed of wood shall exceed three stories in height or be more than forty feet in height.

PART VII.

THROUGHOUT THE ENTIRE CITY.

SECTION 1. Unless their operation is expressly limited therein or they are inconsistent with the regulations and provisions of this Ordinance contained in Parts V and VI, the regulations of Part VII of this Ordinance shall be applicable throughout the whole City of Springfield.

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FOUNDATIONS.

Excavations Protected.

Section 2. All excavations shall be so protected, by sheet piling or other suitable means, by the persons causing the same to be made, as to prevent the same from becoming dangerous to life or limb.

Whenever an excavation is to be made for any building or other purpose, and there shall be any wall or structure wholly or partly on the adjoining land or near the intended excavation, then the party causing such excavation to be made shall notify the owner of said adjoining premises of such intended excavation, and also of the depth to which it is proposed to be made.

Owner to Secure His Building.

The owner of the adjoining premises shall have the right to enter upon the property of the party causing such excavation to be made, for the purpose of securing his building at such time as he is notified that such excavations are about to be made, and within three (3) days after receiving such notice, he shall proceed to make such building secure at his own expense.

Such walls shall be extended by the party owning the building adjoining the intended building, to a depth of ten (10) feet below the grade of the walk in front of such building, but in all cases where the walls have been extended to this depth, the party building upon the adjoining lot, and excavating for the footings to a greater depth, shall at his own expense underpin, sustain and protect the adjacent walls.

Bearing Capacity of Soil.

Section 3. Where no test of the sustaining power of the soil is made, different soils, excluding mud, at the bottom of the footings, shall be deemed safely to sustain the following loads to the superficial foot, namely: soft clay, one ton per square foot; ordinary clay and sand together in layers, wet and springy, one and one-half tons per square foot; clay or fine sand, firm and dry, two

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tons per square foot; very firm, coarse sand, stiff gravel or hard clay, four tons per square foot. Where a test is made of the sustaining power of the soil, the Building Commissioner shall be notified and a record of the test shall be filed.

Foundations and Footings.

Section 4. Every building shall have suitable foundations of brick, stone, iron, steel or concrete on solid earth or rock, or upon piles where solid earth is not found. Any temporary frame building or shed may rest on a temporary foundation. Foundations shall not be built in wet soil unless the trenches in which the work is being executed are kept free from water, if such is possible, until after the completion of the work upon the foundations. Foundations of rubble stone laid in cement mortar will be allowed only under buildings less than forty-five (45) feet in height, and for a depth of less than ten (10) feet.

Piling.

Section 5. Piles intended to sustain a wall, pier or post shall be spaced not more than thirty-six or less than twenty inches on centers, and they shall be driven to a solid bearing, if practicable to do so, and the number of such piles shall be sufficient to support the superstructure proposed. No pile shall be used of less dimensions than five inches at the small end and ten inches at the butt for piles less than twenty feet in length, and twelve inches at the butt for piles more than twenty feet in length. No pile shall be weighted with a load exceeding forty thousand pounds. When a pile is not driven to refusal its safe sustaining power shall be determined by the following formula: twice the weight of the hammer in tons multiplied by the height of the fall in feet divided by the penetration of pile under the last blow in inches plus one. The Building Commissioner shall be notified of the time when test piles will be driven. The tops of all piles shall cut off below the lowest water line.

Concrete Piles.

In case concrete piles are used, whether reinforced or not, their

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bearing power shall be determined by putting in one or more test piles and loading them after the concrete has hardened. The load allowed shall not be more than one-half the load under which the pile begins to settle. In no case, however, shall the load on a concrete pile exceed that specified herein for concrete in columns.

Capping for Piles.

All wooden piles shall be capped with block granite levelers, each leveler having a firm bearing on the pile or piles which it covers, or with first class Portland cement concrete, not less than sixteen inches thick, above the pile caps, containing one part of cement to not more than six parts of properly graded aggregate of stone and sand, the concrete to be filled in around the pile heads upon the intervening earth.

Steel in Foundations.

Section 6. Metal in foundations and all structural metal work underground, or in places exposed to wet or dampness, shall be protected from corrosion by concrete or other material approved by the Commissioner.

CONCRETE CONSTRUCTION.

Monolithic Concrete Walls.

Section 7. Monolithic concrete walls constructed in place without reinforcement shall be of the full thickness prescribed in Section 25, Part VII, and with suitable reinforcement the thickness may be modified at the discretion of the Commissioner. The forms to be built up of plank or other suitable framework. Such concrete, thoroughly wet and properly worked, shall be tamped in one-foot layers, and the exposed surface shall be well wetted before adding the next succeeding layer.

Reinforced Concrete.

Section 8. The term "reinforced concrete" shall mean an approved concrete mixture in which steel is embedded in such a

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position that it will resist all tensile stresses and assist in the resistance to compression and shear along proper structural lines so that the stresses in the combination can be ascertained by computation and verified by tests.

SPECIFICATIONS, DRAWINGS, AND STATEMENT FOR APPROVAL.

SECTION 9. Before a permit to erect any reinforced concrete building or structure is issued, complete specifications and drawings shall be filed with the Building Commissioner, showing all details of the construction, the size and position of all reinforcing material and the stresses, and stating the ingredients and proportions of the concrete to be used. The approval of plans and specifications by the Building Commissioner shall not relieve the engineer or contractor of responsibility.

WORK TO BE SUPERVISED.

SECTION 10. The execution of the work shall be performed by workmen under the direct supervision of a competent foreman or superintendent who shall be satisfactory to the Building Commissioner.

AGGREGATE AND GENERAL REQUIREMENTS.

SECTION 11. Buildings of reinforced concrete, when designed in accordance with the requirements of this Ordinance, shall be deemed to be fireproof. The aggregate for such concrete shall be clean, broken hard stone, or clean graded gravel, mixed with clean, sharp sand. Should the concrete be used for flooring between steel beams, clean furnace cinders, entirely free from combustible materials, or suitable slag may be used; when stone is used with sand it must be of a size to pass through a two-inch ring, and twenty-five per cent. of the whole must not be more than one-half the maximum size; and provided that the minimum thickness of concrete surrounding the reinforcing members of reinforced concrete beams and girders shall be two inches on the bottom and one and one-half inches on the sides of the said beams and girders. The minimum thickness of concrete under slab reinforcement shall

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be one inch. All reinforcement in columns to have a minimum protection of two inches of concrete.)

Concrete Between Steel Beams.

Section 12. All the requirements specified in Section 11 for the protection of steel and for fire-resisting purposes shall apply to reinforced concrete flooring between steel beams as well as to reinforced concrete.

Hand Mixing.

Section 13. In hand mixing, the sand and cement shall be mixed dry until of a uniform color before adding water; the proper amount of water required for each batch shall be determined by trial and this amount used. The stone or aggregate shall be thoroughly wetted before being added to the cement and sand, the stone to be spread in a uniform layer over the cement and sand and the whole turned a sufficient number of times, so that all grains of sand and each particle of stone shall be coated and a uniform mixture free from streak is obtained. No concrete to be mixed in the dark. Concrete shall be placed immediately after mixing.

Forms for Concrete.

Section 14. The forms for concrete shall be built plumb and true, and in a substantial manner, made tight so that cement grout cannot leak through joints or holes, and before placing any concrete all chips, shavings or other debris shall be removed.

Supports and Placing of Reinforcing Material.

Section 15. All forms to be properly supported and braced in a manner to safely sustain the weight of the material, and any load that may be imposed upon them during construction. The reinforcing material must be accurately located in the forms and secured or kept in place, so as not to be disturbed during pouring.

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WHERE NEW WORK JOINS OLD.

SECTION 16. In making a bond between new work and that which is set, clean the old work and wet thoroughly with thin cement grout to assist in making a good bond.

CONCRETE FROZEN IN FORMS.

SECTION 17. Materials or forms covered with ice or snow shall not be used. When concrete is frozen after being placed, the forms supporting same shall not be removed until danger of frost is passed and the natural hardening of the concrete has proceeded to a point of safety.

REMOVING OF FORMS.

SECTION 18. The forms for all reinforced concrete shall remain in position for a length of time sufficient to insure against failure. The proper time for the removal of forms shall be decided by some competent and responsible person.

PROPORTIONS OF MIXTURE.

SECTION 19. The concrete for all girders, beams, slabs, and columns shall be mixed in such proportions and so handled that after it is placed in the forms, all voids in the aggregate will be filled with sand and all voids in the mortar filled with cement; and when used in reinforced concrete construction must be what is usually known as a "wet" mixture.

QUALITY OF CEMENT.

SECTION 20. Only high grade Portland cement shall be used in reinforced concrete construction. Tests shall be made whenever required by the Building Commissioner. All cement shall meet the requirements of the standard specifications for cement adopted by the American Society for Testing Materials.

QUALITY OF STEEL.

SECTION 21. The steel used in reinforced concrete shall meet

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the requirements for structural steel of the Manufacturers' Standard Specifications.

Load Tests.

Section 22. The contractor must be prepared to make load tests within a reasonable time after the beams and slabs are in place, the test to be the application of a load equal to three times the figured live load to such parts as the Building Commissioner may select. The floor shall sustain this load for at least twenty-four hours without cracking or dangerous deflection or other sign of weakness or failure.

PORTLAND CONCRETE BUILDING BLOCKS.

Portland Stone.

Section 23. Portland cement artificial stone may be used the same as stone ashlar if, after proper tests have been made by the owner or manufacturer, the Commissioner is satisfied that the use of such material will in no way affect the stability or durability of the wall in which it is used.

Size of Blocks.

Section 24. Portland cement blocks not more than nine (9) inches high, nor less than eight (8) inch beds, with hollow spaces not exceeding one third (1-3) the area of the block, and having an annulus of uniform thickness, may be substituted for brick or stone in any building not more than three stories or forty (40) feet high.

Thickness of Block Walls.

Whenever such blocks are used the thickness of the wall shall not be less than the required thickness for brick walls as given in the tables in Section 25, Part VII, of this Ordinance.

No Hollow Blocks in Party Wall.

No hollow blocks shall be used in any party or fire wall.

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Age of Blocks.

All Portland building blocks, before being used in any building, must have attained the age of at least thirty (30) days.

Solid Under Loads.

Whenever girders or beams rest upon hollow concrete block walls so that there is a concentrated load of over two (2) tons, the blocks must be made solid on each side and below such beams or girders. to the satisfaction of the Building Commissioner.

Whenever walls are decreased in thickness, the top course of the thicker wall shall be made solid.

Load on Blocks—Strength of Block Concrete.

No wall or any part thereof built of hollow concrete blocks shall be loaded to exceed ten (10) tons to the square foot of horizontal area, including the weight of the wall, and no block shall be used that shows a crushing strength of less than fifteen hundred (1,500) pounds per square inch at the age of thirty (30) days.

Concrete Lintels to Be Reinforced.

Concrete lintels spanning openings more than four (4) feet in width shall be reinforced with iron or steel satisfactory to the Commissioner, and shall rest on solid concrete blocks.

Testing Samples.

No hollow concrete blocks shall be used in the construction of any building, under this Ordinance, until the maker of said blocks has submitted samples of his work to the full test required by the Commissioner, and placed on file with the Building Department a certificate from a reliable testing laboratory showing that samples from the lot of blocks to be used have passed the requirements.

The maker or user of such blocks must be ready at all times during the progress of the work on any building to furnish at his own expense tests satisfactory to the Commissioner, of the blocks being used in said building. Any lot of blocks, samples of which

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at the age of thirty (30) days fail to stand the tests required, shall not be used.

Identification Marks.

A brand or mark of identification of the manufacturer must be impressed in or otherwise permanently attached to each block.

Thickness of Walls.

Section 25. The minimum thickness for all outside, party, and division brick walls of all business, manufacturing and public buildings, except those mentioned in the dwelling house class, shall not be less than the number of inches shown in the following table:—

	B	1	2	3	4	5	6	7	8	9	10
1 Story,	12	8									
2 Stories,	16	12	12								
3 Stories,	16	12	12	12							
4 Stories,	20	16	16	12	12						
5 Stories,	24	20	16	16	12	12					
6 Stories,	24	20	20	16	16	12	12				
7 Stories,	24	20	20	20	16	16	12	12			
8 Stories,	28	24	20	20	20	16	16	12	12		
9 Stories,	28	24	24	20	20	20	16	16	12	12	
10 Stories,	32	28	24	24	20	20	20	16	16	12	12

Walls Under Frame Buildings.

Basement or cellar walls for two-story frame dwellings and for three-story wooden tenement houses shall be not less than eight inches thick; such walls shall be strengthened by suitable buttresses well bonded into the wall; such basement or cellar walls shall be increased in thickness if in the opinion of the Building Commissioner the nature of the soil or depth below ground requires an increase of thickness.

The minimum thickness for all outside, party and division brick walls for tenement houses, asylums, club houses, convents, dormitories, dwellings, hospitals, hotels, laboratories, lodging

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houses, parish buildings, schools and studios, except division walls in tenement houses as provided for in Section 31, Part VII, of this Ordinance, shall be not less than the number of inches shown in the following table:—

	B	1	2	3	4	5	6	7	8	9	10
1 Story,	12	8									
2 Stories,	12	12	8								
3 Stories,	12	12	12	8							
4 Stories,	16	12	12	12	8						
5 Stories,	20	16	16	12	12	12					
6 Stories,	20	16	16	16	12	12	12				
7 Stories,	24	20	16	16	16	12	12	12			
8 Stories,	24	20	20	16	16	16	12	12	12		
9 Stories,	24	20	20	20	16	16	16	12	12	12	
10 Stories,	28	24	20	20	20	16	16	16	12	12	12

Height of Stories.

The height of stories for the thicknesses of walls given shall not exceed for the first story sixteen (16) feet in the clear, for the second story fourteen (14) feet in the clear, for the third story twelve (12) feet in the clear, for the upper stories eleven (11) feet in the clear; and if any story exceeds the foregoing heights, the walls of any such story shall be increased four (4) inches in thickness.

The following shall apply to the walls of all buildings:—

Conditional Provisions.

If the clear span between walls or from wall to partition or bearing opposite is to be over twenty-five (25) feet, then the bearing walls shall be increased four (4) inches in thickness for every twelve and one-half (12½) feet or fraction thereof that the said span is over twenty-five feet (25); or instead of increased thickness of walls, piers or buttresses may be incorporated in the walls to the satisfaction of the Building Commissioner.

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Increased Thickness of Walls.

In all buildings over sixty (60) feet deep, without a cross wall, or proper piers and buttresses reinforcing the wall, the walls shall be increased in thickness four (4) inches more than is specified for the thickness of the walls, for every sixty (60) feet in depth.

Excess of Openings.

If any horizontal section through any part of a bearing wall of any building shows an excess in area of flues and openings, the said bearing wall shall be increased in thickness to the satisfaction of the Building Commissioner.

Use of Hollow Tile and Bricks—Recesses and Chases—Timbers in Party Walls.

Section 26. When hollow tile or composition blocks are used as lining for walls they shall not be included in the measurements of the thickness of such walls. Hard burned hollow bricks may be included in measurements of thickness of wall when properly tied and bonded to the walls with full header course every sixth course and of same dimensions as other bricks. No recess or chase shall be made in any external or party wall so as to leave the thickness at the back less than eight (8) inches. No roof or floor timber entering a party wall shall have less than four (4) inches of solid brick work between it and the end of any other timber.

Wood Lintels Prohibited.

Section 27. No masonry shall rest upon wood; except piles or mud sills. The use of wood lintels for supporting masonry over door, window or other openings is prohibited.

Bonding.

Section 28. Every eighth course, at least, in a brick wall shall be a full heading or bonding course, except where walls are faced with face brick, in which case in every fifth course, at least,

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every other brick may have a metal tie. No diagonal header tie shall be used.

AIR SPACES IN WALLS.

SECTION 29. If the air spaces are headed over and the walls are built solid for at least one course below the floor and roof beams, walls, if of brick, may be built hollow. They shall contain, exclusive of withes, the same amount of material as is required for solid walls, and the parts on either side shall be securely tied together with headers every eighth course not over eight inches apart.

PARTY AND DIVISION WALLS.

SECTION 30. Except where otherwise mentioned in Part VI, Section 4, and Part VII, Sections 31 and 45, and excepting buildings of the first class and factory buildings, every building shall have a party or division wall of brick for every five thousand superficial feet on the ground or fraction thereof in excess of five thousand superficial feet.

OPENINGS IN PARTY AND DIVISION WALLS.

Openings for doorways in party or division walls shall not exceed one hundred square feet each in area, and each opening shall have fire doors hung in a manner satisfactory to the Building Commissioner. The aggregate width of all openings in division walls in any story shall not exceed thirty per centum of the length of the wall in which such openings occur. Openings, not exceeding one hundred and forty (140) square inches, constructed and protected as shall be approved by the Building Commissioner, may be permitted in any wall or floor.

AREAS—SEPARATION OF TENEMENT HOUSES INTO AREAS—EXTENSION OF PARTY WALLS.

SECTION 31. Every tenement house of the second or third class covering more than two thousand superficial feet on the ground, shall have a party wall or division wall of brick or concrete for every two thousand superficial feet on the ground or

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fraction thereof in excess of two thousand feet. Such a party or division wall if a bearing wall shall be not less than eight inches thick for the two top stories and not less than twelve inches thick below the two top stories; if not a bearing wall the party or division wall may be eight inches thick for the three top stories and not less than twelve inches thick below the three top stories. The party or division wall shall be constructed without openings, so as to form a complete separation of the areas so divided, except that when an inside stairway is completely inclosed with brick walls, there may be one door opening from each of two tenements on each floor into said stairway, such doors and frames to be fireproofed with metal on all sides. Such a party or division wall shall extend to roof boarding, except that for every four thousand superficial feet on the ground or fraction thereof, one party wall or division wall shall extend two feet above the roof and shall be capped like fire walls mentioned in Section 7, Part V, of this Ordinance.

Measurements—Where Taken.

Section 32. In determining the extent of the areas above mentioned the measurements shall be taken at the ground level, except that where any such building has a store in the first story the measurements may be taken at the level of the second floor beams.

Piers.

Section 33. Brick piers shall be built of good, hard, well-burned brick of uniform size, and shall be of sufficient size to carry safely the load which they are intended to support.

The joints shall not exceed three-eighths of an inch in thickness. One course of brick shall be laid over the whole surface of the pier and the joints thoroughly filled with suitable mortar before the next course is laid. The top of the pier when finished shall be level for the cap stone, plate, or other covering.

Pier-Caps.

Suitable caps or iron plates, proportioned in either case to the weight to be carried and of the full size of the pier, will be

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required, except that on the face of an external brick pier the plate may be kept back four inches from outside face of pier to allow for the finished brickwork between outside edge of plate and face of pier. Cap stones or iron plates unless supporting columns or posts will not be required on piers in buildings of the third class.

Increase in Thickness of Existing Walls.

Section 34. When the further use of existing exterior or party walls is proposed, if the height is to be increased, the thickness must conform to the requirements of this Ordinance. When the thickness of walls must be increased by additional brickwork, the combined thickness of the old and new work shall not be less than four (4) inches more than the required thickness for a new wall of the same height. The additional thickness shall not be less than eight (8) inches, and shall be carried up to the height required by the Building Commissioner.

The additional thickness shall rest on and be supported by suitable foundations. The new work shall be thoroughly anchored or bonded into the old wall, which must first be cleaned of old plaster or other covering and well soaked with water. All mortar for such work shall be strong Portland cement mortar.

Stone Walls.

Section 35. Where walls or outside piers are built of coursed stones with dressed level beds and vertical joints, the Building Commissioner may allow such walls or piers to be built of a less thickness than specified for brick walls, but in no case shall said walls or piers be less than three-quarters of the thickness provided for brickwork.

The Use of Ashlar.

Stone used for the facing of any building, and known as ashlar, shall be not less than four inches thick. Stone ashlar shall be properly anchored to the backing, and the backing shall be of such thickness as to make the walls, independent of the ashlar,

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conform as to the thickness with the requirements of Section 25, Part VII, of this Ordinance; unless the ashlar be at least eight inches thick and properly bonded into the backing, and then it may be counted as part of the thickness of the walls.

Wall Plates.

Section 36. The ends of all iron or steel girders resting on walls shall have metal plates of sufficient size to safely sustain and distribute the superimposed loads.

Iron and Steel Walls—Use of Columns.

Section 37. Walls may be built in part of iron or steel or with reinforced concrete or metal framework. In such metal framework the beams and girders shall be riveted to each other at their respective junction points. If columns made of rolled iron or steel are used, their different parts shall be riveted to each other, and the beams and girders resting upon them shall, if possible, have riveted connections to unite them with the columns.

Column and Beam Connections.

If cast iron columns are used, the ends shall be planed smooth and true, and each successive column shall be bolted to the one below it by at least four bolts not less than three-fourths of an inch in diameter, and the beams and girders shall be bolted to the columns. At each line of floor or roof beams, lateral connections between the ends of the beams and girders shall be made in such manner as rigidly to connect the beams and girders with each other in the direction of their length. Anchors shall be provided at the ends of all beams, channels, girders or trusses bearing on walls.

All party walls of skeleton construction shall have walls of brick, not less than twelve (12) inches thick.

Masonry Walls in Steel Construction.

All outside walls of skeleton construction shall have walls

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which may be of masonry, terra cotta or reinforced concrete properly constructed, supported and anchored.

If the metal or other framework is so designed that the inclosing walls do not carry the weight of floors or roof, then the walls shall be of masonry or concrete construction and shall be thoroughly anchored to the iron skeleton, and whenever the weight of such walls rests upon the beams or columns, such beams or columns shall be made strong enough in each story to carry the weight of wall resting upon them without reliance upon the walls below them.

Pipe Columns.

Section 38. The use of hollow wrought iron or steel columns, whether filled or unfilled, for supporting masonry walls, or in wet or damp places, is prohibited, unless the metal is protected with Portland concrete at least two (2) inches thick. (See Section 63, Part VII.)

Solid Steel Columns.

Section 39. When it is necessary or desirable to use solid steel or wrought iron columns to support masonry, a factor of safety of not less than six must be allowed. The ends of columns must be planed.

Cornices.

Section 40. Where a wall is finished with a stone cornice the greatest weight of material of such cornice shall be on the inside of the face of the wall. All cornices of second class buildings shall be of fireproof material properly supported and secured to the wall by metal brackets and hangers.

Hearths and Fireplaces.

Section 41. Hearths shall be supported by trimmer arches of brick, terra cotta, concrete, iron bars or stone, wooden centering under hearths to be removed before the ceiling underneath is lathed or plastered. Brick jambs of every fireplace, range or grate opening shall be at least eight (8) inches wide each, and the backs

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of such openings shall be at least eight (8) inches thick. Hearths and trimmer arches shall be at least twelve (12) inches longer on either side than the width of such openings, and at least eighteen (18) inches wide in front of the chimney breast. Brickwork over fireplaces and grate openings shall be supported by proper iron bars, or brick or stone arches.

Wall and Beam Anchors and Ties.

Section 42. All brick or stone walls of a building, meeting at an angle, shall be united every eight (8) feet of their height by anchors made of at least two (2) inches by one-half (½) inch wrought iron, securely built into the side or partition walls not less than thirty-six (36) inches, and into the front and rear walls at least one-half of the thickness of such walls, except where the walls are carried up together and bonded at the point of contact.

All walls of a building, other than one of mill construction, shall be anchored at each tier of beams or joists at intervals of not more than eight (8) feet with wrought iron anchors at least one-fourth inch by one and one-half inches wide and not less than eighteen (18) inches long, and each to have at least two three-eighths inch holes for spikes, with which to be secured to the joists.

Anchor Plates.

In mill construction, each timber shall be anchored with cast iron anchor plates at least three-quarters of an inch thick, or with other suitable anchors.

Beams supported by girders, posts, or partitions, if butt jointed over supports, shall be dogged or strapped by wrought iron straps of the same size and on the same beams as the wall anchors, and fastened in the same manner.

Every pier or wall shall be anchored to the beams of each story.

Wall Plates.

The plate, supporting roofs upon brick buildings, shall be securely bolted to the brickwork.

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Fireproof Partitions.

Section 43. Partitions in buildings of first class construction shall be constructed of incombustible studding, covered with metal lath and plaster, brick, or hollow blocks composed of cement, plaster or terra cotta. When block construction is used it shall be self-supporting above all openings, thoroughly bonded and set in Portland cement. The blocks shall start from the floor and shall be continuous to the floor above, except that in the upper story, where there is a space between the ceiling of the top story and the roof, these partitions need not extend above the ceiling. If plastered on both sides the blocks shall be not less than three (3) inches thick up to a height of ten (10) feet, and shall be increased one (1) inch for every additional five (5) feet or fraction thereof.

The thickness of webs of blocks shall be not less than three-fourths of an inch. If partitions are not plastered on both sides, the thickness of the blocks shall be one (1) inch greater than as specified above.

Cellar Partitions.

Section 44. In all tenement houses hereafter constructed all partitions in basements or cellars shall be of brick or other suitable incombustible materials, or when built to form compartments for use of tenants may be built with metal or wood posts, and the spaces between filled with galvanized wire netting. The use of wood slat partitions and doors is prohibited.

Areas of First Class Buildings.

Section 45. Any first class building hereafter erected and used above the first story as a warehouse or store for the storage or sale of merchandise shall be so divided by brick walls, built like party walls with the same openings allowed, that no space inside such buildings shall exceed in area ten thousand square feet, except that when any such building has a frontage of not less than fifty (50) feet on each of two streets, such space may exceed ten thousand square feet in area, provided that buildings in which such

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extension of area beyond ten thousand feet is permitted shall have automatic fire sprinklers installed, and means of ingress and egress satisfactory to the Building Commissioner.

AREAS OF SECOND CLASS BUILDINGS WHEN USED AS STORES.

Second class buildings hereafter erected and used above the first story as warehouses or stores for the storage or sale of merchandise shall be so divided by brick walls, built like party walls with the same opening allowed, that no space inside such buildings shall exceed in area ten thousand square feet, and no existing wall in any second class building shall be removed so as to leave an area of more than ten thousand square feet, nor shall any existing wall, separating areas which combined would exceed ten thousand square feet in area, have openings cut in it greater in area or number than is allowed by this Ordinance for party walls.

SHAFTS TO BE INCLOSED—SKYLIGHT OVER SHAFTS.

SECTION 46. Every second class building, except as provided in Section 56, more than three stories high, and every first class building hereafter erected and used above the first story as a warehouse or store for the storage or sale of merchandise, shall have all shafts for elevators and stairways, air or light, inclosed with fireproof construction, except that an independent, monumental stairway extending from basement to second story may be constructed without inclosures. Such inclosures shall be supported on footings, or fireproof supports and framing, and shall, if inclosing stairs, have approved self-closing or automatic fire doors, and all openings in said inclosures shall be glazed with wire glass. The skylight covering vent shafts shall be raised at all points at least one (1) foot above the top of the walls of such vent shaft, and the space between the top of said walls and the skylight shall remain at all points open and unobstructed, except for such supports essential to the stability of the skylight, as may be approved by the Building Commissioner.

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STUD PARTITIONS.

SECTION 47. In all tenement houses of the second and third class hereafter erected, all bearing stud partitions which rest directly over each other shall run between the wooden floor beams and rest upon the cap of the partition below, and shall have the studding filled in solid between the uprights to the depth of the floor beams with suitable fireproof materials. Where stud partitions are not bearing partitions, all spaces shall be suitably filled with at least two (2) inches of wood. The studs in bearing partitions shall be 2″x 4″ studs or larger if necessary to support the load which may be placed upon them.

FIRE STOPS—NOTIFY WHEN READY FOR LATHING.

SECTION 48. Except in single houses, the spaces between and behind all studding or furring on walls shall be filled solid with bricks and mortar or other fireproof material for a space of five (5) inches in height above the floor timbers on plaster grounds. Spaces between the strap furring on brick walls shall be filled solid with mortar for five (5) inches below the bottom of the floor timbers. The spaces between the stringers of stairs and joists of landings, unless unceiled or of fireproof construction, shall be stopped solid with wood two (2) inches thick, brick or terra cotta, or other approved materials, as often as twice in each flight. The spaces between floor timbers on bearing partitions shall be stopped in similar manner. The Building Commissioner must be notified when any building is ready for lathing.

METAL SASHES AND SHUTTERS—CURTAIN SPRINKLERS.

SECTION 49. In all first or second class buildings over thirty (30) feet in height, except dwellings and tenement houses, outside openings in party walls, or in any rear or side wall within twenty (20) feet of an opposite wall or building, shall have metal frames and sashes and shall be glazed with wire glass or shall be protected by curtain sprinklers or shutters. Such shutters shall be of standard construction covered on both sides with tin or shall be made

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of other suitable fireproof material and hung on the outside, either upon independent metal frames or upon metal hinges attached to the masonry, and shall be made to be operated from the outside.

Floor Loads.

Section 50. All new or renewed floors and stairs shall be so constructed as to carry safely the weight to which the proposed use of the building may subject them, and every permit granted shall state for what purpose the building is designed to be used; but the least capacity per superficial square foot, exclusive of materials, shall be:—

For floors of houses for habitation, fifty (50) pounds.

For office floors and for public rooms of hotels and houses exceeding five hundred square feet, one hundred (100) pounds.

For floors of retail store and public buildings, except schoolhouses, or for light manufacturing, one hundred and twenty-five (125) pounds.

For floors of schoolhouses, other than floors of assembly rooms, sixty (60) pounds, and for floors of assembly rooms, one hundred and twenty-five (125) pounds.

For floors of drill rooms, dance halls and riding schools, at least one hundred and fifty (150) pounds.

For flat roofs, forty (40) pounds.

For stairs, landings, platforms and fire escapes, seventy (70) pounds.

The loads not included in this classification shall be determined by the Building Commissioner.

The full floor load specified in this section shall be included in proportioning all parts of buildings designed for warehouses, or for heavy mercantile and manufacturing purposes. In other buildings, however, reductions may be allowed as follows:—

For girders carrying more than one hundred square feet of floor, the live load may be reduced ten per cent.

Reductions in Loads.

For columns, piers, walls and other parts carrying two floors, a

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reduction of fifteen per cent. of the total live load may be made; where three floors are carried, the total live load may be reduced by twenty per cent.; four floors, twenty-five per cent.; five floors, thirty per cent.; six floors, thirty-five per cent.; seven floors, forty per cent.; eight floors, forty-five per cent.; nine or more floors, fifty per cent.

OVERLOADING.

SECTION 51. To prevent overloading in all warehouses, storehouses, factories, workshops or other buildings, now or hereafter constructed, where heavy materials are kept or stored, or machinery introduced, the weight that each floor will safely sustain upon each square foot thereof, or upon each varying part of such floor, shall be estimated by the Building Commissioner, or by a competent person employed by the owner or occupant; and said estimate shall be placed permanently on the wall or on a metal tablet in a conspicuous place in the hallway of each story or varying parts of each story of the building to which it relates. No person shall place or permit to be placed on the floor of any building any greater load than the safe load thereof, as correctly estimated and ascertained as herein provided.

JOIST ANCHORS.

SECTION 52. Every floor in second class buildings shall have its joists tied to the walls and to each other with wrought iron straps or anchors at least one-quarter of an inch thick by one and one-half inches wide, and not less than eighteen (18) inches long, so as to form continuous ties across the building not more than eight (8) feet apart. Walls running parallel, or nearly parallel, with floor joists shall be properly tied once in eight (8) feet to the floor beams by iron straps or anchors of the size above specified, and extending across at least three joists.

STIRRUP IRONS.

SECTION 53. Every wooden header or trimmer more than four (4) feet long, carrying a floor load of over seventy (70) pounds per square foot, shall, at connections with other beams,

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be framed or hung in stirrup irons, of strength equal to the weight to be supported. All tail beams and similar beams of wood shall be framed or hung in stirrup irons.

Timbers.

Section 54. The ends of all wooden floor or roof timbers in second class buildings shall enter the wall to a depth of at least four (4) inches, or the timbers shall be hung in metal hangers; and the ends of all such timbers shall be so shaped or arranged that in case of fire they may fall without injury to the wall.

Stairs in Storage or Mercantile Buildings.

Section 55. No building where ten or more persons are employed or congregate therein above the first story, which is used either for storage or sale of merchandise, or as an office building, shall have less than two (2) stairways from each story. The combined width of the two stairways shall not be less than seven (7) feet and six (6) inches.

Second class buildings used for the above purposes, having an undivided floor area of more than six thousand (6,000) square feet, shall have three (3) stairways, the combined width of which shall be twenty-four (24) inches for each one thousand (1,000) feet in area in excess of six thousand (6,000) square feet, in addition to the minimum of seven (7) feet and six (6) inches.

Buildings of mill construction used for the above purposes shall have stairs as required for second class buildings, except that the combined width of stairways shall be increased eighteen (18) inches for each one thousand (1,000) feet in area in excess of six thousand (6,000) square feet.

In buildings of the first class, used for the above purposes, the location, number, and width of stairways shall be satisfactory to the Building Commissioner.

The widths of different stairways need not be alike, but no stairway shall be less than three (3) feet in the clear. All stairways to have suitable handrails.

Stairways shall be located as far from each other as practicable.

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The bottom of each stairway shall be in the immediate vicinity of the top of stairs leading to the next lower story, and the line of travel from stairway to stairway shall be direct and easily accessible each to the other.

Such buildings shall have at least one stairway extending to the roof.

Where a basement or cellar is used for the retail sale of goods, the stairways from such basement or cellar shall in number and aggregate width comply with the requirements of this Section for the stories above the street level.

No basement or cellar in such buildings shall have less than two (2) exits.

STAIRS IN TENEMENT HOUSES.

Every tenement house hereafter erected shall have at least one continuous stairway extending from the entrance floor to the top floor and each tenement shall have at least two means of egress. Public halls therein shall each be at least three (3) feet two (2) inches wide in the clear, and stairs shall be at least three (3) feet two (2) inches wide between the walls and the stair rail.

HEIGHT OF RISERS—WINDERS.

Each stairway shall have an entrance on the entrance floor, from a street or alley or open passageway from an outer court, or from an inner court which connects directly with a street or alley or open passageway. All stairs shall be constructed with a rise of not more than eight and one-fourth (8¼) inches, and with treads not less than nine (9) inches wide and not less than three (3) feet long in the clear. Where winders are used, all treads at a point eighteen (18) inches from the strings on the wall side shall be at least ten (10) inches wide.

BALUSTERS AND RAILINGS.

In every tenement house all stairways shall be provided with proper balusters and railings kept in good repair. No public hall or stairs in a tenement house shall be reduced in width so as to be less than the minimum width prescribed in this section.

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STAIR HALLS—HOW CONSTRUCTED AND FIRE STOPPED.

SECTION 56. In second and third class tenement houses hereafter erected, the stair halls may be inclosed with wooden stud partitions if such partitions are covered on both sides with metal lath and plaster or with good quality plaster boards not less than three-eighths inch in thickness, made of plaster and strong fiber, and provided that the space between the studs is filled in with brick and mortar or other incombustible material to the full height of the studs and floor or ceiling beams. In such houses the stairs may be of wood, provided that the soffits and underside of landings are covered with metal lath and plastered with two coats of mortar, and provided that such stairs are furnished with fire stops. There shall be no closets under stairs to second story.

ENTRANCE HALLS—WIDTH OF HALLS—DOORS TO OPEN OUTWARD.

SECTION 57. Every entrance hall in every tenement house hereafter erected shall be at least three (3) feet six (6) inches wide in the clear, from the entrance up to and including the stair inclosure, and beyond this point at least three (3) feet two (2) inches wide in the clear, and shall comply with all the conditions of the preceding sections of this Ordinance as to the construction of stair halls, except that in a tenement house hereafter erected as a first class building, the entrance hall may be inclosed with terra cotta blocks not less than four (4) inches thick and angle iron construction, instead of brick walls. If such entrance hall is the only entrance to more than one stairway, that portion of said hall between the entrance and the stairway shall be increased at least eighteen (18) inches in width in every part for each additional stairway. Outside and vestibule doors to entrance hall in every tenement house shall open outward.

STAIR WINDOWS.

SECTION 58. In every tenement house hereafter erected the public halls and stairs shall be lighted by at least one window in each story, having an area of not less than twelve (12) square feet,

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opening directly on a street, alley, yard or court, or by a suitable skylight.

ARTIFICIAL LIGHTING OF HALLS AND STAIRS.

SECTION 59. The public halls and stairs within every office building and every tenement house, three or more stories in height, shall have gas or electric lights so located that the stairs and landings shall be adequately lighted, and it shall be compulsory on the part of the owner of such building to keep said lights lighted from sunset to sunrise.

HEIGHT OF BUILDINGS.

SECTION 60. Every building, unless of standard mill construction, or an office building, over five (5) stories in height or seventy (70) feet in height wherever erected or raised to the aforementioned number of stories or feet in height; every building to be used as a hotel or lodging house over four (4) stories in height or over sixty (60) feet in height; every building to be used as a school, hospital, asylum, or a building in which public assembly of more than one hundred persons can occur, over two (2) stories in height; every tenement house over five (5) stories in height or over seventy (70) feet in height to be used as a tenement house, shall be constructed as a first class building, provided, however, that such buildings, except those to be used as schools, hospitals or asylums, or buildings in which public assemblage of more than one hundred persons can occur, may be constructed in the following manner:—

REQUIREMENTS FOR BUILDINGS OVER FIVE STORIES IN HEIGHT.

Such buildings not exceeding six (6) stories in height or seventy (70) feet in height may have all external walls, party walls and bearing walls throughout constructed of brick, stone, iron, steel, concrete, reinforced concrete or other equally substantial and incombustible material and all floors and roofs shall be constructed so as to conform to the requirements of a first class building, and all vertical supporting members in such buildings shall be protected as described in Section 63. Minor partitions

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not supporting loads of any kind may be of wood studs covered on both sides with metal lath, plaster board or other approved incombustible lath, and plastered with hard plaster.

REQUIREMENTS FOR BUILDINGS OVER SIX STORIES IN HEIGHT.

Buildings having space for stores or other business in the first story, and offices in the stories above, may be built in accordance with paragraph two of this Section, to a height of eight (8) stories or ninety (90) feet in height, provided that all partitions inclosing public hallways and stairs shall be built of fireproof materials, and the doors, windows, and frames in such partitions are covered with metal and glazed with wire glass.

Such buildings more than eight (8) stories in height or ninety (90) feet in height, and every other building more than six (6) stories in height or seventy (70) feet in height, unless of mill construction, shall be constructed in accordance with the requirements of a first class building, and all structural steel or iron shall be protected as described in Section 63, Part VII. Any building to be used as a factory or storage building of standard mill construction, may be built not to exceed six (6) stories in height or ninety (90) feet in height.

HEIGHT OF WOODEN BUILDINGS.

No wooden building hereafter erected to be used for habitation shall be more than three (3) stories, including the attic, in height above the basement, nor more than forty (40) feet in height above the street level.

PROJECTIONS, CORNICES AND BAYS.

SECTION 61. Cornices on buildings three or more stories in height, and bays in front walls, if placed above the third story, may project over a public street or way, not to exceed two (2) feet. Such cornices and bays shall be entirely of incombustible material, and be strongly supported.

No part of any building less than three (3) stories in height shall project over any public street or way.

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Discharge from Roofs.

Section 62. No part of any roof shall be constructed in such a manner as to discharge snow, ice, or other material upon a public street or way.

Protection of Structural Metal.

Section 63. All structural metal supporting or forming part of the frame, floors, roof or columns of any building, except as otherwise exempted in this Ordinance, shall be protected against the effect of heat.

This protection shall consist of concrete, or of terra cotta, brick, or other approved fireproof material set in cement mortar. When block construction is used it shall be clamped in place with steel clamps or wrapped securely with number twelve galvanized iron wire or metal lathing in such manner as to hold each block in place, and shall be plastered with cement mortar at least three-fourths of an inch thick in addition to the protection.

Thickness of Metal Protection.

The protection on all floor and roof beams shall be at least one (1) inch thick, on all floor and roof girders and on all beams carrying masonry at least one (1) inch thick on top and two (2) inches thick on sides and bottom. All cast iron, wrought iron or steel columns or supports, including the lugs and brackets on same, used in the interior of any fireproof building or used to support any fireproof floor or masonry, shall be protected with not less than two (2) inches of fireproof material securely applied. The extreme outer edge of lugs, brackets and similar supporting metal may project to within one (1) inch of the surface of the fireproofing. When the fireproofing of round columns is of Portland concrete it shall be applied in two separate layers, each not less than one (1) inch thick, and each layer shall be reinforced with metal lath securely fastened around the column. No "patent plaster," plaster of Paris or lime plaster shall be used in fireproofing. All furring for this purpose shall be of metal.

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If terra cotta blocks are used for protection, such blocks may be hollow, but each face shall be solid, and no flange shall be less than one (1) inch thick.

Plaster as Fire Protection.

Plaster on wire or metal lath shall not be considered as a fire protection for steel or iron structural members, but may be used with an air space under arches as a suspended ceiling, provided that such arches have at least one (1) inch of thickness of fireproofing under the flanges in addition to such ceiling, and that the metal lath and plaster are suspended separately from the arches and are not less than one (1) inch below the same.

All protection shall be applied directly to the metal work.

Protection of Metal Trusses.

The metal work of all trusses carrying masonry or floor loads shall be protected, as hereinbefore described, but said provisions shall not apply to trusses which carry roof load only.

When a wall or partition is formed with a framework of angles, channels, or other built up shapes, and such wall or partition is filled in flush with both faces of the frame with terra cotta blocks, additional protection may be omitted.

The above requirements as to fireproofing shall not apply to iron or steel beams in second or third class buildings in any case in which the use of wood, for a similar purpose, without fire protection would be permissible under this Ordinance. In the interior of buildings of the second and third class, concrete filled columns, except to support masonry, may be used without fire protection.

Guards for Protection.

In positions where the protection of isolated or exposed columns is likely to be broken or damaged by trucks or merchandise, there shall be outside of the protection a guard at least five (5) feet high, of iron or wood, bound with wire or steel bands so as to be self-supporting.

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ALTERATIONS.

SECTION 64. If in the opinion of the Building Commissioner any proposed alteration is of such extent as when done will produce a practically new structure or will impair the stability or increase the fire risk of a structure as a whole or of the surrounding property, then the whole structure shall be made to conform with the provisions of this Ordinance.

STORE FRONTS.

SECTION 65. In every first class building, and in every second class building within the fire limits, whether in new or alteration work, the store fronts, except sash, doors and frames for same, shall be of incombustible materials. The steel beams and columns supporting the masonry above shall be fireproofed as described in Section 63, Part VII, of this Ordinance.

TEMPORARY SUPPORTS.

SECTION 66. Every structure in process of construction, alteration, repair or removal, and every neighboring structure or portion thereof, affected by such process or by any excavation, shall be sufficiently supported during such process so that the same shall not become dangerous to life or limb. (See Part VII, Section 2.)

OBSERVATION STANDS.

SECTION 67. No observation stand shall be constructed or maintained except in accordance with the plans approved by the Building Commissioner.

CEILING AND WALL PROTECTION.

SECTION 68. Unless of fireproof construction all cellar ceilings of schoolhouses and other buildings used or occupied by more than ten persons above the first story, and if any portion of a tenement house is to be used for mercantile, manufacturing or storage purposes, the walls and ceilings surrounding the areas so used shall

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be plastered three-quarters of an inch thick with hard plaster on coated metal lath not lighter than 24 gauge.

Metal Ceilings.

Section 69. Metal ceilings on joist construction, in buildings of more than one story, to be used for business purposes, shall only be put on over the lath and plaster or plaster boards.

Means of Egress.

Section 70. In all tenement houses of first class construction there shall be provided at least two stairways at opposite ends of the building and sufficiently accessible to each apartment to be satisfactory to the Building Commissioner.

In all tenement houses hereafter erected and more than two stories in height, and not exceeding five stories in height above the basement or cellar, there shall be one of the following means of egress for escape from fire sufficiently accessible to each apartment to be satisfactory to the Building Commissioner:—

(1) An exterior wooden stairway and inside stairs as hereinafter described; or (2) an exterior iron fire escape and inside stairs as hereinafter described; all of which shall be constructed to the satisfaction of the Building Commissioner.

Exterior Wooden Stairways.

Exterior wooden stairways for all tenement houses not exceeding five stories in height may consist of wooden stairs properly protected with railings. Such stairs shall extend from the top floor to an outer court or yard. Such stairs shall be separated from any stairway that may lead to the basement unless the stairway to the basement be separated from the basement by a brick wall at least eight (8) inches thick and door or doors at least one and three-quarter (1¾) inches thick and tinned on both sides. Such stairs shall be at least thirty-two (32) inches wide, risers not more than eight and one-half (8½) inches high and treads not less than nine (9) inches wide.

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Wooden Verandas on Tenement Houses.

Section 71. Verandas in connection with an exterior wooden stairway may be constructed of open wood construction to the satisfaction of the Building Commissioner. Such verandas shall be protected with railings and the roof covered with metal or tar and gravel. Wood posts supporting a wooden stairway or verandas in connection with same shall not be less than five and one-half (5½) inches square.

Metal Fire Escapes.

Section 72. Exterior fire escapes shall be of iron, with iron-grated floor, and capable of bearing safely a load of seventy (70) pounds per square foot. The stair treads shall be of iron, and the pitch of the stairs shall not exceed forty-five (45) degrees.

Balconies shall be at least four (4) feet three (3) inches wide, and the stairs at least twenty-four (24) inches. There shall be a landing at the foot of each flight, the floor of landings to be not more than ten (10) inches below top of sill of the window opening on to same, and the top of window sill to be not more than two (2) feet and four (4) inches above the floor or platform inside. At the level of the second floor where stairs do not extend to the ground there shall be cantilever or other approved ladders.

The rails on horizontal balconies and on stairs shall be at least two (2) feet ten (10) inches high at all points.

Balconies.

Balconies connecting adjoining houses, or adjoining parts of the same house, as described above, shall be not less than thirty (30) inches wide and capable of sustaining safely a load of seventy (70) pounds per square foot. The railings thereon shall be not less than two (2) feet ten (10) inches high and shall be of iron. Every new fire escape shall be painted with two (2) coats of durable paint, one put on at the shop, and the other immediately after the erection of such fire escape, and all fire escapes shall be kept painted and in good repair.

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Bulkheads and Scuttles.

Section 73. Every tenement house of the first class hereafter erected having a flat roof shall have in the roof a fireproof bulkhead with a fireproof door to the same, and shall have stairs with a guide or hand rail leading to the roof, except that in such tenement houses, which do not exceed seventy (70) feet in height, such bulkheads may be of wood plastered on metal lath on the inside and covered with metal on the outside, and the door to same shall be covered with metal on both sides.

Permanent Ladders and Stairs Leading to Roof.

Every tenement house of second or third class construction having a flat roof shall have in the roof a bulkhead or scuttle. No scuttle shall be less in size than two (2) feet by three (3) feet, and all scuttles shall be covered on the outside with metal and shall be provided with stairs or ladders permanently attached at the top leading thereto and easily accessible to all tenants of the buildings and kept free from incumbrance, and all scuttles and ladders shall be kept so as to be ready for use at all times. No scuttle shall be situated in a closet or room, and access through the scuttle to the roof shall be direct and uninterrupted. Scuttles shall be hinged so as to readily open. Every bulkhead hereafter constructed in a tenement house shall be constructed as provided for tenement houses hereafter erected, and shall have stairs with a guide or hand rail leading to the roof and such stairs shall be kept free from incumbrance at all times. No lock shall be placed on any scuttle or bulkhead door, but either may be fastened on the inside by movable bolts or hooks. No scuttle or bulkhead leading to the roof in a tenement house shall be removed.

Chimneys.

Section 74. Every chimney flue shall be carried to a height sufficient to protect adjoining buildings from fire, and, unless the roof is covered with incombustible material, shall extend at least four (4) feet above the highest point of contact with the roof.

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Flue Linings for Chimneys.

All chimneys of masonry construction shall have walls at least eight (8) inches thick on all sides or be constructed of four (4) inch brick walls with a suitable flue lining. If constructed of cement blocks, the blocks shall be at least four (4) inches thick, and the flue lined with a suitable lining. All flue linings to extend the entire height of flues. In no case shall a chimney be built more than six (6) inches out of plumb unless the same be attached to a brick wall.

Chimneys Through Floors.

Where chimneys pass through wood floors they shall be held central in openings by one header projected out at each corner against opening, and there shall be fire stops of tin or sheet metal to stop draft through openings around chimneys on each floor.

No chimney shall be corbeled from a wall more than the thickness of the wall; nor be hung from a wall which is less than twelve (12) inches thick; nor be supported upon woodwork; nor be within one (1) inch of any floor joist, rafter, studding or furring.

Smoke Stacks.

Section 75. Isolated smokestacks or ventstacks may be of fireproof materials, of construction approved by the Building Commissioner.

Smoke Pipes.

Section 76. No smoke pipe shall project through any external wall or window, nor through a roof or floor.

In no case shall tin or sheet metal pipes for gas stoves, gas ranges or gas grates be allowed in wood partitions.

Ventilation of Toilet Rooms.

Section 77. Every inclosure containing one or more water closets shall be provided with adequate ventilation to the outer air, either by window or suitable light shaft, or by mechanical ventilation.

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Ventilating Flues.

Section 78. Every ventilating flue shall be constructed of incombustible material.

Boilers and Furnaces.

Section 79. No boiler used for heat or power and no hot air furnace shall be placed in any building without a permit from the Building Commissioner.

No furnace or boiler for heat or power shall be placed upon a wooden floor.

Covering Over Brickset Furnaces.

All hot air furnaces set in brick must be covered with brick, slate or metal, supported by iron bars and so constructed as to be perfectly tight; said covering to be in addition to, and at least six (6) inches from, the ordinary covering to the hot air chamber.

Metal Shields Over Heating Apparatus.

In other than single dwellings outside the fire limits, and except in fireproof rooms, all ceilings over boilers and furnaces unless protected by plaster on metal lath shall be shielded with metal, with joints made tight, and suspended below joists or ceiling at least one (1) inch and extending two (2) feet beyond the boiler or furnace on back and sides and four (4) feet in front of same.

The distance from top of boiler or furnace to said shield shall be not less than twelve (12) inches.

No boiler or furnace shall be placed within three (3) feet of any combustible partition unless the same is protected with metal, then the distance shall be not less than two (2) feet on sides and back and four (4) feet on front of the boiler or furnace.

The top of all portable heating boilers and furnaces in single dwellings shall be at least eighteen (18) inches below the joists or ceiling, or have a metal shield made tight and suspended below the said joists or ceiling at least one (1) inch and extending two (2) feet beyond the boiler or furnace on all sides.

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Smoke Pipe Shields.

Section 80. All smoke pipes shall be at least eighteen (18) inches below the joists or ceiling above the same, unless said joists or ceiling shall be properly protected by a shield or metal plate suspended above said pipe, with a space of at least three (3) inches above and below such shield for the free circulation of air.

Smoke pipes shall be kept at least twelve (12) inches from any vertical woodwork or combustible partition unless the same is properly protected by a metal shield, placed one (1) inch from the woodwork, in which case the distance may be not less than six (6) inches.

The width of metal shields for smoke pipes shall be at least twice the diameter of the smoke pipe.

Pipe Protection.

Section 81. No steam pipe, furnace pipe or other hot air pipe, used for heating purposes, shall be carried within one (1) inch of any woodwork unless such pipes are double or carefully covered with fourteen pound asbestos, or otherwise protected by incombustible material to the satisfaction of the Building Commissioner.

Pipe Collars.

Section 82. All steam and hot water pipes used for heating purposes, where passing through woodwork, shall be surrounded with metal collars.

Steam Exhaust.

Section 83. No steam exhaust, blowoff, or drip shall be directly connected with any soil, waste or vent pipe, but must pass through a suitable steam trap and cooling tank or coil.

Stoves and Ranges.

Section 84. Where stoves or ranges are set upon a combustible floor, except in single houses, they shall be so set as to leave an air space between them and the floor, and the floor shall be protected by sheet metal. No brick set range, portable range or heat-

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ing apparatus of any kind shall be set against a wood or wood lath and plaster partition.

Ash Boxes and Pits.

Section 85. All receptacles for ashes except those used in private dwellings shall be of galvanized iron, brick or other incombustible material. When the ash pit is located in a basement or cellar, it shall be inclosed with brick walls, and the top covered with at least four (4) inches of brick or concrete.

Drying Rooms.

Section 86. All walls, ceilings and partitions, inclosing drying rooms in laundries or dry houses, when not made of fireproof material, shall be metal lathed not lighter than 24 gauge, and plastered with hard plaster not less than three-quarters of an inch thick, or covered with metal,—lock-jointed and nailed,—tile, or other incombustible material.

Brick Bake Ovens.

Section 87. Bake ovens shall rest on solid foundations or metal beams; the sides and ends shall be at least two (2) feet from any woodwork; and the crown or arch at least four (4) feet from ceilings that have wood joists. The hearth in front of all bake ovens shall extend at least three and one-half (3½) feet beyond the face thereof.

Portable Bake Ovens.

Section 88. Where portable bake ovens rest on combustible floors, the floors shall be covered with metal or other incombustible material satisfactory to the Commissioner. The walls or partitions, unless of incombustible material, and if within three (3) feet of the sides of the oven, shall be covered with metal. The ceiling, if within four (4) feet of the oven, shall be protected by a metal shield.

Smoke Houses.

Section 89. Smoke houses shall be constructed throughout of incombustible materials, and shall be provided with ventilators

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at or near the top, and with guards not less than four (4) feet above the fire bed, sufficient to prevent the meats from falling into the fire.

Shaving Pits.

Section 90. Shaving pits in all factories where wood-working machinery is used shall be constructed of brick, stone or other incombustible material, and shall be separated from the boiler room by standard fire doors. All such factories shall have metal chutes leading to said shaving pits from each floor where a wood-working machine is located.

Shavings shall not be allowed to accumulate, but shall either be kept in pits as above mentioned or removed from the premises.

Bakeries and Fat Boiling.

Section 91. No bakery and no place of business in which fat is boiled shall be maintained in any tenement house which is not fireproof throughout, unless the ceiling and side walls of said bakery or of the said place where fat boiling is done are made safe by fireproofing around the same, or by the use of fireproof materials, and there shall be no opening either by door or window, dumb waiter shafts or otherwise, between said bakery or said place where fat is boiled in any tenement house and the other parts of the building.

Openings Into Rooms Where Inflammable Materials Are Kept.

Section 92. All transoms and windows opening into halls from any part of a tenement house where paint, oil, spirituous liquors or drugs are stored for the purpose of sale or otherwise, shall be covered with metal and glazed with wire glass, or they shall be removed and closed up as solidly as the rest of the walls, and any doorway in such wall shall be provided with a fireproof self-closing door.

Billboards and Signboards.

Section 93. No billboard or signboard shall be erected or placed upon any building or structure or the roof thereof within

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the limits of the City of Springfield, except under the following conditions:—

It shall be unlawful for any person, firm or corporation to attach any billboard or signboard to the roof, front, sides, or rear walls of any building, unless the same shall be safely and securely anchored or fastened thereto in such a manner as will be approved by the Building Commissioner. All such billboards or signboards shall be of galvanized iron or other equally incombustible material.

PENALTY.

SECTION 94. Whoever violates any provisions of this Ordinance shall forfeit and pay for each offense not exceeding One Hundred ($100) Dollars.

REPEAL.

SECTION 95. All Ordinances heretofore passed by virtue of which the City of Springfield has adopted or accepted any of the provisions of Revised Laws, Chapter 104, or the corresponding provisions of earlier laws, are hereby ratified and confirmed. Except as aforesaid, all Ordinances or parts of Ordinances inconsistent with the provisions hereof are hereby repealed. This Ordinance shall take effect the first day of May, 1912.

Approved April 16, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER X.

AN ORDINANCE

AN ORDINANCE AMENDING CHAPTER 37 OF THE REVISED ORDINANCES OF THE CITY OF SPRINGFIELD FOR THE PREVENTION OF INJURIOUS PRACTICES IN THE STREETS.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. Section 44 of Chapter 37 of the Revised Ordinances of the City of Springfield for the prevention of injurious

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practices in the streets is hereby amended by inserting in the third line thereof after the word "discharged" the words "or to flow," so that said section as amended shall read as follows: Section 44. No person shall permit water from the eaves or leader pipes of any building owned or cared for by him to be discharged or to flow upon any public street or sidewalk in the city; and no person, between the hours of eight o'clock in the morning and eleven o'clock in the evening, shall wash or allow to be washed any windows or wall of a building owned or cared for by him in such a manner as to cause the discharge of water upon any public sidewalk or walk devoted to the public use.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

Approved April 16, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER XI.

AN ORDINANCE

RELATING TO POLICE INSPECTORS.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The Chief of Police is hereby authorized to detail additional night and day watchmen to the detective force whenever in the judgment of the Police Commission the service may warrant it.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

Approved April 23, 1912.

Attest: E. A. NEWELL, *City Clerk.*

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CHAPTER XII.

AN ORDINANCE

AMENDING SECTION 3 OF CHAPTER 37 OF THE REVISED ORDINANCES RELATING TO INJURIOUS PRACTICES IN THE STREET.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. Section 3 of Chapter 37 of the Revised Ordinances is hereby amended by striking out the words "Mayor and Aldermen" in the ninth and fifteenth lines and substituting therefor the words "Superintendent of Streets," so that said section as amended shall read as follows:—

SECTION 3. No person shall place or maintain any awning or shade over any part of any street or sidewalk, unless the same be safely and securely fastened, and so located and constructed as in no wise to incommode passengers, the lowest part thereof to be at least seven feet above the sidewalk, and in no case to extend beyond the line thereof. No such awning or shade shall be placed or maintained without written permission from the superintendent of streets, which permission shall be revocable, and any person having such permission, so placing or maintaining the same, shall in all respects conform to any direction in relation to the location, extent, materials, construction, and maintenance thereof which shall be given by the superintendent of streets.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

Approved May 14, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER XIII.

AN ORDINANCE

RELATING TO VACATIONS OF MEMBERS OF THE FIRE DEPARTMENT.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. All members of the Fire Department below the

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rank of Chief Engineer, permanently employed, shall be allowed a vacation of one day in every five days, without loss of pay, provided that men on such vacation days shall answer all second, third, and general alarms of fire during such days. Such vacation shall not be included in the vacation of two weeks in each year which the Commissioners of the Fire Department are authorized to grant any member of said department.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

Approved June 4, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER XIV.

AN ORDINANCE

INCREASING THE NUMBER OF PERMANENT MEN IN THE FIRE DEPARTMENT.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The number of permanent men in the Fire Department of the City of Springfield is hereby increased by the addition of twenty-one men.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

Approved June 11, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER XV.

AN ORDINANCE

RELATING TO SEWER ENTRANCES.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. No private drain shall be entered into any main

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drain or common sewer without a permit in writing from the Mayor and Aldermen, which permit and application therefor must be of the form prescribed in the rules relating to sewers and drains adopted by the Mayor and Aldermen, and all persons to whom such permits shall be granted shall pay therefor such sum as the Mayor and Aldermen shall determine. The permit shall be signed by the City Clerk and delivered to the City Collector, who shall receipt the same if entrances have been paid for and transmit the permit to the person or persons to whom the permit is granted.

SECTION 2. Section 16 of Chapter 36, Revised Ordinances, and all Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

Approved July 9, 1912.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER XVI.

AN ORDINANCE

RELATING TO THE ADVERTISING OF CERTAIN PETITIONS OR REQUESTS WHICH REQUIRE OR PROVIDE FOR PUBLICATION OR ADVERTISING IN NEWSPAPERS.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. All petitions for hearings or other requests or petitions which require or provide for publication or advertising in newspapers shall be accompanied by a fee sufficient to pay the expense of such publication, payable to the City Collector.

Approved July 9, 1912.

Attest: E. A. NEWELL, *City Clerk.*

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CHAPTER XVII.

AN ORDINANCE

AMENDING CHAPTER 19 OF THE REVISED ORDINANCES RELATING TO THE SUPERINTENDENT OF STREETS.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. Chapter 19 of the Revised Ordinances as amended by Chapter 13 of the Ordinances of 1910 relating to the Superintendent of Streets is hereby further amended as follows: by striking out of Section 1, line 1, the word "annually," and from line 2 the words "first Monday of February," and inserting in place thereof the words "second Monday of September"; by striking out in the fifth line of said section, the words "one year," and inserting in place thereof the words "three years"; by striking out in the sixth line of said section the words "first Monday of April," and inserting in place thereof the words "first day of December"; so that said section 1 shall read as follows as amended:—

SECTION 1. There shall be chosen on the second Monday of September or within sixty days thereafter, by concurrent vote of the two branches of the City Council, a superintendent of streets, who shall, unless sooner removed, hold his office for three years from the first day of December in the year in which he shall be chosen, and until his successor is chosen and qualified. He shall be removable at the pleasure of the City Council, and a vacancy may be filled at any time for the unexpired term; said superintendent shall receive such compensation for his services as the City Council shall from time to time determine.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

Approved October 22, 1912.

Attest: E. A. NEWELL, *City Clerk.*

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CHAPTER XVIII.

AN ORDINANCE

ESTABLISHING A DEPARTMENT OF STREETS AND ENGINEERING IN THE CITY OF SPRINGFIELD.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. There is hereby established in the City of Springfield a department of streets and engineering which shall be under the charge of the superintendent of streets and engineering. Said superintendent, who shall be a person fitted by education, training, and experience to perform the duties of the office, shall be elected by the City Council by joint ballot in convention as soon as may be convenient after this Ordinance becomes effective, and on or not more than 60 days after the first Monday in September in the year 1917 and in every fifth year thereafter. He shall be removable at the pleasure of the City Council and unless so removed shall hold office for five years from the first Monday in January in the year 1913 and until his successor is chosen and qualified. A vacancy may be filled at any time for the unexpired term. Said superintendent shall devote his entire time to the work and shall receive such compensation for his services as the City Council shall from time to time determine.

SECTION 2. The Mayor, one member of the Board of Aldermen and one member of the Common Council, the latter two members to be chosen by their respective board by viva voce vote, shall constitute a board of supervisors, which shall exercise a general supervision and direction over all matters within said department. When duly authorized by the City Council said board of supervisors may, at its discretion, contract for all material necessary for said department. Said board shall perform all duties imposed by any existing Ordinance or statute upon the committee on sewers and drains, the committee on streets and sidewalks, the committee on lighting streets, the committee on forestry, and the board of supervisors of highways and bridges.

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SECTION 3. The department of streets and engineering shall perform all the duties now imposed by any existing Ordinance or, so far as legally consistent, by any statute upon the following departments: 1, streets; 2, sewers; 3, engineering; 4, street lighting; 5, forestry, and shall contain such divisions as the superintendent, with the approval of said board of supervisors, may create. The officials now in charge of the street department, the sewer department, the engineering department, the street lighting department, and the forestry department shall continue therein during the remainder of their present terms of office, subject, however, to the authority of the said superintendent of streets and engineering and to such rules in regard to their removal as have heretofore existed or now exist. Each division of said department of streets and engineering shall be in charge of a person expert in the duties which may devolve upon him, and such division superintendents shall be appointed by the superintendent, subject to confirmation by said board of supervisors, without reference to party affiliation or residence at the time of appointment. Each division superintendent shall devote his whole time to the work, and shall receive such compensation as the City Council shall from time to time determine and shall hold office concurrently with the superintendent.

SECTION 4. Said superintendent shall, under the general direction of said board, supervise and care for the streets, roads, sidewalks, lanes and bridges of the city; shall attend to the making, widening, or altering of the same; shall cause the same to be kept in good, sufficient, and suitable repair; and, subject to the approval of said board and to the appropriation authorized, shall make all contracts for labor and materials. He shall notify the board of public works of the completion of the laying out, altering, widening, discontinuing, or changing of the grade of any street, such notice to be given forthwith upon the completion of such work.

SECTION 5. Said superintendent, subject to such regulations as said board may prescribe, shall make all necessary and proper arrangements for laying dust in and cleaning the streets and disposing of manure, refuse, and street dirt, and for collecting and disposing of ashes and garbage.

SECTION 6. Said superintendent, subject to such regulations

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as said board may prescribe, shall have the care and custody of all street lights except as otherwise provided by law.

SECTION 7. Said superintendent shall have the care of all trees belonging to the city; shall act under the provisions of Section 10 of Chapter 51 of the Revised Laws; and shall superintend the erection and maintenance of all street signs.

SECTION 8. Said superintendent, subject to such regulations as said board may prescribe, shall have the care and superintendence of all property of the department.

SECTION 9. Unless otherwise provided, the superintendent, either by himself or by the division superintendents, shall take charge of the construction of all public works of the city which come under this department; shall perform all engineering services and make all examinations and make and prepare all statements, plans, and specifications which any department may need in the discharge of its duties; shall supervise all repairs on the bridges used as highways which affect the safety of the structure, and when required by the mayor, or by any officer or board in charge of a department, shall measure the work done by contract for the city, and certify to the results of such measurements; and shall make the surveys, measurements, levels, and estimates and perform the other duties of a civil engineer in the laying out and constructing of streets, sidewalks, drains, sewers, and other public works delegated to or undertaken by his department, and shall perform any and all such other services as may be required of him by the mayor, aldermen, city council, or any committee thereof, the city solicitor, or by any other department.

SECTION 10. Said superintendent may from time to time employ such office or field assistants in addition to the division superintendents herein provided for, as he may require in the performance of the duties of said department, and shall determine their compensation, in accordance, however, with the ordinances of the city, and within the appropriation for said department and subject to the approval of said board. He may, subject to the approval of said board, expend such sums for labor, materials, implements, appliances, and incidental expenses as may be necessary for the use of said department; provided, however, that all such ex-

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penditures for employment of assistants and for material and other incidentals shall be limited to the amount actually appropriated by the City Council for said department.

SECTION 11. Said superintendent, subject to such regulations as said board may prescribe, shall assign numbers to all buildings on streets in the city of Springfield.

SECTION 12. The owner and occupant of every tenement and building situated within limits prescribed by said board, shall cause to be placed and maintained such number or numbers as may be assigned thereto, under any of the provisions of this chapter, the size of said numbers or figures to be determined by said board and to be so placed as to be easily observed from the street in front of the premises.

SECTION 13. Any owner or occupant of such tenement or building who shall refuse or neglect to comply with the provisions of this chapter for thirty days after a notice in writing has been delivered to him shall for each and every offense forfeit and pay a penalty of not less than two nor more than twenty dollars.

SECTION 14. If the owner or occupant of any tenement or building fails to number the same in accordance with the provisions of this chapter, it shall be the duty of the superintendent, or his authorized agent, to place the proper number or numbers thereon, and the cost thereof may be assessed by the mayor and aldermen upon said owner or occupant.

SECTION 15. Said superintendent, either by himself or by division superintendents, shall perform all the duties imposed by any existing Ordinance upon the superintendent of streets, the superintendent of sewers, the city forester, the superintendent of street lighting, and the city engineer, and except as hereinbefore provided, all the said offices are hereby abolished.

SECTION 16. Said superintendent shall keep an exact account of the expenditures in his department with the names of all persons who have furnished materials and of all workmen and the amount due to each individual and shall lay the same before said board for its examination and approval at such times as it may direct; and he shall annually, on or before the last Monday in December, present to the City Council a report containing a de-

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tailed statement of the expenditures of the department during the preceding fiscal year, specifying, as near as may be, the amounts expended upon different streets for construction and maintenance, the condition of all structures that come under his supervision that are in process of construction or have been completed during the previous year, together with a schedule in detail of the property under his charge belonging to the city, and such other information relating to the work of the department as he may deem expedient, or as said City Council may require.

SECTION 17. All Ordinances and parts of Ordinances inconsistent herewith are hereby repealed.

This Ordinance returned by the Mayor to Board of Aldermen in which it originated, with his objections thereto, was passed by the Board of Aldermen and in concurrence by the Common Council, January 4, 1913, the objections of the Mayor notwithstanding in the manner prescribed by law and thereby is in force.

Attest: E. A. NEWELL, *City Clerk.*

CHAPTER XIX.

AN ORDINANCE

ESTABLISHING THE COMPENSATION OF THE SUPERINTENDENT OF STREETS AND ENGINEERING.

Be it ordained by the City Council of the City of Springfield, as follows:—

SECTION 1. The compensation of the Superintendent of Streets and Engineering is hereby established at four thousand dollars per annum.

SECTION 2. All Ordinances or parts of Ordinances inconsistent herewith are hereby repealed.

Approved December 31, 1912.

Attest: E. A. NEWELL, *City Clerk.*

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Be it Ordered by the Mayor and Board of Aldermen of the City of Springfield, as follows, to wit:—

1. Every vehicle other than a trolly car or railroad train driven by mechanical power and used for the conveyance of persons for hire from place to place within said city shall be deemed a taxicab.

2. All the rules, requirements, regulations, and restrictions now in force and applying to the operation and use of, and the prices that may be charged for the conveyance of persons in, hackney carriages shall apply to taxicabs, except as hereinafter otherwise provided.

3. No person shall drive a taxicab unless he has secured a license thereto from the Chief of Police, which license shall state the name, age, height, and weight of the licensee, his experience as a motor operator, his home address and the name of his employer. He shall report to said Chief of Police any change of employer or of his home address, within three days after such change. For every license so granted, there shall be paid to the Chief of Police the sum of one dollar ($1.00), and all such licenses shall expire on the first of April next after the date thereof, unless sooner revoked by said Chief of Police.

4. The prices or rates of fare to be taken by or paid to the owner, driver, or other person having charge of any hackney carriage between the hours of six o'clock in the morning and ten o'clock in the evening shall apply to taxicabs between the hours of six o'clock in the morning and twelve in the evening. For the conveyance of persons by taxicab between the hours of twelve o'clock in the evening and six o'clock in the morning double the rates of fare permitted during other hours may be charged.

5. The charge for taxicabs when hired by the hour between the hours of six o'clock in the morning and twelve o'clock in the evening shall not exceed three dollars per hour, and a proportionate part of $3.00 for each fraction of an hour after the first hour.

6. A card to be furnished by the Chief of Police, with the name of the owner, the number of the license, a map of the city and the rates of fare fixed by the Ordinances of the City printed

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thereon, shall be placed and at all times kept in a conspicuous place inside of every taxicab.

7. On the first day of each month the Chief of Police shall pay the City Collector the sum collected by him as fees hereunder during the preceding month.

A true copy of an order passed by the Board of Aldermen July 8, 1912.

Attest: E. A. NEWELL, *City Clerk.*

ORDERED, that the following sewer entrance fees be and hereby are established:—

1. For churches, public libraries, and charitable institutions: twenty-five (25) dollars.

2. For surface drainage basins on private property having independent connection with sewer: five (5) dollars for each basin.

3. For manholes owned by public service corporations and situated in public streets: five (5) dollars.

4. For dwelling houses: fifty (50) dollars.

5. For private barns and garages not classified in Section 6, having independent connection with sewers: five (5) dollars.

6. For factories, hotels, stores, club houses, fraternity buildings, public stables and garages, apartment houses three or more stories in height, and buildings used for business purposes: Two cents per square foot of area covered by the building for the two lower stories and an additional charge of one half cent per square foot of area covered by the building for each additional story.

Provided that in no case shall the entrance fee for buildings classified in this section be less than fifty (50) dollars.

7. When more than one connection is required for the same property the fee for each additional connection shall be five (5) dollars.

8. Where alterations or additions to property connected with a city sewer are proposed, the owner of said property shall, previous to the commencement of alterations or building operations, pay to the City Collector any additional sewer entrance fee necessary to comply with the provisions of this order.

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9. In all cases the entrance fee, together with the estimated cost of labor and materials required for the drain or sewer connection in the street, shall be paid to the City Collector before the entrance is made.

10. The Committee on Sewers and Drains shall adjust any question of charges in connection with entrance fees or for which no provision has been made in this order.

11. All previous orders inconsistent herewith are hereby rescinded and annulled.

A true copy of an order passed by the Board of Aldermen December 23, 1912, and approved by the Mayor December 24, 1912.

Attest: E. A. NEWELL, *City Clerk.*

RULES OF THE ROAD DECEMBER 31, 1912.

CITY OF SPRINGFIELD, MASS.

ADOPTED by orders passed by the Board of Aldermen and duly approved by the Mayor.

ARTICLE I.

RULES OF THE ROAD.

SECTION 1. Vehicles keeping to the right: Vehicles shall keep to the right and as near the right-hand curb as possible.

SECTION 2. Vehicles meeting: Vehicles meeting shall pass each other to the right.

SECTION 3. Vehicles overtaking others: Vehicles overtaking others shall, in passing, keep to the left.

SECTION 4. Turning and starting: The driver or person having charge of any vehicle before turning the corner of any street or turning out or starting from or stopping at the curb line of any street, shall first see that there is sufficient space free from other vehicles, so that such turn, stop or start may be safely made, and shall then give a plainly visible or audible signal.

SECTION 5. Turning to the right into another street: A

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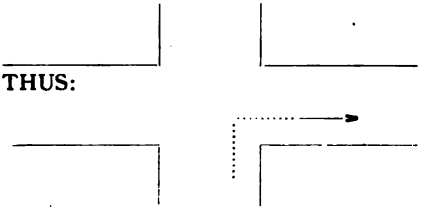
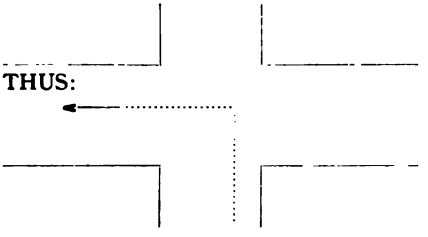
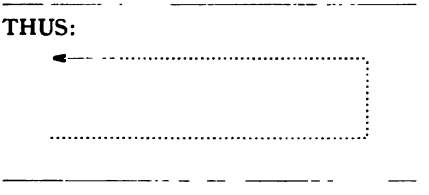
vehicle turning to the right into another street shall turn the corner as near to the curb as practicable.



SECTION 6. Turning to the left into another street: A vehicle turning to the left into another street shall pass to the right of and beyond the center of the street intersection before turning.



SECTION 7. Crossing streets: A vehicle crossing from one side of the street to the other shall do so by turning to the left so as to head in the same direction as the traffic on that side of the street.



SECTION 8. Stopping at the curb: No vehicle shall stop, in the business section, with its left side to the curb.

SECTION 9. In no case shall a vehicle remain backed up to

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the curb on Main street between Stockbridge street and Bliss street and the arch without special permit from the Chief of Police.

SECTION 10. Stopping close to curb line: Unless in an emergency or to allow another vehicle or pedestrian to cross its path, no vehicle shall stop in any public street or highway of this City, except close to the curb line.

SECTION 11. Stopping near corners: No vehicle shall stop or stand within the intersection of any street.

SECTION 12. Surface cars taking on or discharging passengers: Surface cars shall stop on the far side of the street at the crosswalk to discharge or take on passengers except at the following points.

The stopping places on the west side of Main street for south bound cars shall be as follows:—

West Side. *South Bound.*

No. 1 White Post, opposite north side of Lyman street.
170 feet to Stop No. 2.

No. 2, first pole from north side of Hampden street.
360 feet to Stop No. 3.

No. 3 Stop, at Post Office, same as at present; pole already marked.
250 feet to Stop No. 4.

No. 4 Stop, in front of Kinsman's store, north side of Bridge street. Pole marked: Rear end of car stops here.
320 feet to Stop No. 5.

No. 5 Stop, present stop near Besse place. Pole marked: Front end of car stops here.
240 feet to Stop No. 6.

No. 6 Stop, south side of Vernon street, opposite Forbes & Wallace. Pole marked: Rear end of car stops here.
260 feet to Stop No. 7.

No. 7 Stop, north side of Pynchon street, opposite Green's drug store. Pole marked: Front end of car stops here.
230 feet to Stop No. 8.

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No. 8, Same as at present, Smith & Murray's, north side Court street. Pole marked: Front end of car stops here.

400 feet to Stop No. 9.

No. 9 Stop, front of Walker Building, south side of Elm street. Pole marked: Front end of car stops here.

The stopping places for cars going north on the east side shall be as follows:—

East Side. *North Bound.*

330 feet to Stop No. 10.

No. 10 Stop, front of Brewer's drug store, south side of Sanford street. Pole marked: Front end of car stops here.

230 feet to Stop No. 11.

No. 11, Front of Adams' drug store, south side of Court street. Pole marked: Rear end of car stops here.

270 feet to Stop No. 12.

No. 12, Front of Union Trust, south side of Townsley avenue. Pole marked: Front end of car stops here.

230 feet to Stop No. 13.

No. 13, Front of Woods' store, south side of Harrison avenue. Pole marked: Front end of car stops here.

350 feet to Stop No. 14.

No. 14, Front of Meekins, Packard & Wheat, south side of Hillman street. Pole marked: Front end of car stops here.

210 feet to Stop No. 15.

No. 15, Front of Lerche's drug store, south side of Bridge street. Pole marked: Front end of car stops here.

250 feet to Stop No. 16.

No. 16, Present stop at the Worthy, south side of Worthington street. Pole marked: Rear end of car stops here.

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300 feet to Stop No. 17.

No. 17, Front of Smith's drug store, south side of Taylor street. Pole marked: Front end of car stops here.

400 feet to Stop No. 18.

No. 18, Present stop near station entrance. Pole marked: Car stops here.

Cars that pass around Court square shall stand only on Court square avenue.

SECTION 13. Right of way: On Main, Water, Dwight, and Chestnut streets in this City all vehicles going in a northerly or southerly direction shall have the right of way over any vehicle going in an easterly or westerly direction.

SECTION 14. Right of way of certain vehicles: The officers and men of the Fire Department, with their fire apparatus of all kinds, when going to, or on duty at, or returning from, a fire, all ambulances, officers, men, and vehicles of the Police Department, and officers and emergency wagons of the Springfield Street Railway Company, shall have the right of way in any street and through any procession, except over vehicles carrying the United States mail.

SECTION 15. Signal in slowing up or stopping: In slowing up or stopping, a signal shall always be given to those behind, by raising the whip or hand vertically.

SECTION 16. Slowly moving vehicles: Vehicles moving slowly shall keep as close as possible to the curb line on the right, so as to allow faster moving vehicles free passage on the left.

SECTION 17. Exceptions: Nothing in these rules shall apply to the apparatus and wagons of the Fire and Police Departments, ambulances, emergency repair wagons of street railroads, and the vehicles carrying the United States mail.

SECTION 18. Between the hours of 8.30 A. M. and 6.30 P. M., no vehicle, other than those excepted by Section 17, shall remain standing on that part of Main street bounded southerly by Stockbridge and Bliss streets and extending northerly to the Main street

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arch for a longer consecutive period than ten minutes unless such vehicle is taking on or discharging a load. No such vehicle or trolly car shall remain standing on Court street, East State street, or Lyman street, within one hundred feet of Main street or one hundred feet on east side of Walnut street from State street at any time, except that a trolly car may stop there long enough to receive passengers. Except as provided in said Section 17 no horse-drawn or motor vehicle shall pass through Townsley avenue except in an easterly directon, from Main street to Market street.

Excepting on East State street, Court street, and Lyman street, as provided in Section 18, no vehicle shall be allowed to stand in any side street between the arch and State street within twenty-five feet of the curb line of Main street.

No vehicle shall be allowed to stand on Main street within five feet of any white post or fire hydrant.

In approaching or passing a Street Railway car which has been stopped to allow passengers to alight or embark, the operator of every motor vehicle shall slow down and if it be necessary for the safety of the public, he shall bring said vehicle to a full stop.

No vehicle shall be allowed to stand on the north side of West Worthington street, within one hundred feet of Main street, except vehicles carrying the United States mails and Custom House merchandise.

PARADES.

All parties of one hundred or more people, wishing to parade through the streets of this City, must make written application to the Chief of Police at least twenty-four hours before time for such parade and secure permit. In case of emergency the Chief can act at his discretion.

No parade of more than one hundred persons shall be allowed to countermarch on Main street between the arch and State street within the hours of 6.30 A. M. and 6.30 P. M., except on holidays and Sundays.

All parades of more than five hundred persons shall form north of Cypress street or south of State street, at a point to be determined by the Chief of Police and a local Committee. All parades

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going north shall form on streets east of Main street, and all parades going south shall form on streets west of Main street.

All parades on holidays shall be subject to the above conditions except the countermarching on Main street.

Circus parades shall be allowed to countermarch on Main street between Lyman and Carew streets.

Fire department apparatus, police wagons, mail wagons, ambulances, doctors' vehicles bearing the red and green cross insignia, and Springfield Street Railway emergency wagons shall have the right of way.

These provisions shall not apply to funerals.

ARTICLE II.

Use of Sidewalks.

Section 1. Driving on sidewalks: Except as provided in this article, no horse, wheelbarrow, or other vehicle shall be driven, backed, led, or allowed to stand on any sidewalk, except that wares or merchandise in process of loading and unloading, shipment, or being received from shipment, may be transferred from trucks or other vehicles over the sidewalk, except on Main street, by the use of skids, provided a passageway must be kept open within the stoop-line of buildings for the free passage of pedestrians, and provided this section shall not apply to children's carriages drawn by hand.

Section 2. Driving across sidewalks: Nothing contained in this article shall prevent the riding or driving of horses or vehicles from private property directly across the sidewalks of any street to the roadway, or from the roadway back to such private property.

ARTICLE III.

Powers of Police Department.

Section 1. Police Department to regulate traffic: The Police Department shall have all powers and duties in relation to the management of vehicular traffic. The driver or person having charge of any vehicle shall stop whenever ordered to do so by a

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police officer, and shall not proceed until he receives a signal so to do from such police officer. The signal to stop may be given by raising the hand vertically.

SECTION 2. Police Department to see that Rules are posted: The Police Department shall see that these Rules are posted in all public stables, and shall keep copies of them at all of its stations and issue them on application.

ARTICLE IV.

PENALTIES FOR VIOLATIONS.

SECTION 1. Penalties for violations: Any person violating the provision relating to motor cars passing a Street Railway car that has stopped to allow passengers to alight or embark, shall be liable to a penalty of not less than ten dollars or more than twenty-five dollars for each offense. Any person violating any other provision of the foregoing rules shall be liable to a penalty of not less than one dollar or more than ten dollars for each offense.

ARTICLE V.

SECTION 1. All Orders and Rules inconsistent herewith are hereby rescinded and annulled.

Attest: E. A. NEWELL, *City Clerk.*

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TAXES.

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TAXES.

TAXES—1852—DAVID A. ADAMS, Collector.

Amount of County tax committed,	$7,785 57	
Amount of City tax committed,	31,213 72—	$38,999 29
Received of David A. Adams, Collector, cash and allowances, as follows: —		
By cash paid County tax,	$7,785 57	
By cash on account of City tax,	28,571 72	
By discount on taxes, allowed,	1,488 36	
By abatements allowed,	1,153 64—	$38,999 29

Rate—Six dollars and fifty cents on one thousand dollars. Poll tax, one dollar and fifty cents.

Attest. JOSEPH INGRAHAM, *City Treasurer.*

TAXES—1853—JAMES KIRKHAM, Collector.

Amount of State tax committed,	$3,827 00	
Amount of County tax committed,	7,229 45	
Amount of City tax committed,	38,338 85—	$48,895 30
Received of James Kirkham, Collector, cash and allowances, as follows: —		
By cash paid County tax,	$7,229 45	
By cash on account of City tax,	38,746 27	
By discount allowed on taxes,	1,829 39	
By abatements allowed,	1,090 19—	$48,895 30

Rate—Seven dollars and twenty cents on one thousand dollars. Poll tax, one dollar and sixty-five cents.

Attest, JOSEPH INGRAHAM, *City Treasurer.*

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TAXES—1854—JOHN B. KIRKHAM, COLLECTOR.

Amount of State tax committed,	$3,327 00	
Amount of County tax committed,	7,785 57	
Amount of City tax committed,	41,512 98—	$52,625 55
Received of John B. Kirkham, Collector, cash and allowances, as follows:—		
By cash paid County tax,	$7,785 57	
By cash on account of City tax,	41,289 37	
By discount allowed on taxes,	2,142 78	
By abatements allowed on taxes,	1,407 83—	$52,625 55

Rate—Six dollars on one thousand dollars. Poll tax, one dollar and sixty-five cents.

Attest, JOSEPH INGRAHAM, *City Treasurer.*

TAXES—1855—IRA B. SAMPSON, JOHN B. KIRKHAM, AND JAMES KIRKHAM, COLLECTORS.

[Ira B. Sampson and John B. Kirkham died before the final settlement with the Treasurer.]

Amount of State tax committed,	$4,990 50	
Amount of County tax committed,	8,063 63	
Amount of City tax committed,	66,816 16	
Amount of interest,	148 30—	$80,018 59
Received of the three Tax Collectors, cash and allowances, as follows:—		
By cash paid County tax,	$8,063 63	
By cash of Ira B. Sampson,	51,000 00	
By cash of John B. Kirkham,	13,788 17	
By cash of James Kirkham,	1,362 27	
By discount on taxes allowed,	2,953 18	
By abatements allowed,	2,851 34—	$80,018 59

Rate—Eight dollars and fifty cents on one thousand dollars. Poll tax, two dollars and twenty cents.

Attest, JOSEPH INGRAHAM, *City Treasurer.*

TAXES—1856—JOHN B. KIRKHAM AND JAMES KIRKHAM, COLLECTORS.

[John B. Kirkham died before the final settlement with the Treasurer.]

Amount of State tax committed,	$6,654 00	
Amount of County tax committed,	8,480 71	
Amount of City tax committed,	54,732 40	
Amount of interest,	102 85—	$69,969 96

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Received of the two Tax Collectors, cash and allowances, as follows:—

By cash paid County tax,	$8,480 71	
By cash,	55,832 95	
By discount allowed on taxes,	3,271 41	
By abatements allowed on taxes,	2,381 49—	$69,969 96

Rate—Seven dollars and fifty cents on one thousand dollars. Poll tax, two dollars and twenty cents.

Attest, JOSEPH INGRAHAM, *City Treasurer.*

TAXES—1857—JAMES KIRKHAM, COLLECTOR.

Amount of State tax committed,	$9,981 00	
Amount of County tax committed,	9,175 86	
Amount of City tax committed,	67,745 36	
Amount of interest,	109 10—	$87,011 32

Received of James Kirkham, Collector, cash and allowances, as follows:—

By cash paid County tax,	$9,175 86	
By cash,	72,698 50	
By discount allowed on taxes,	3,127 64	
By abatements allowed on taxes,	2,009 32—	$87,011 32

Rate—Nine dollars and twenty cents on one thousand dollars. Poll tax, two dollars and twenty cents.

Attest, JOSEPH INGRAHAM, *City Treasurer.*

TAXES—1858—HORACE C. LEE, COLLECTOR.

Amount of State tax committed,	$3,992 00	
Amount of County tax committed,	7,785 57	
Amount of City tax committed,	66,671 26	
Amount of interest,	89 16—	$78,537 99

Received of Collector, as follows:—

By cash paid County tax,	$7,785 57	
By cash,	65,750 86	
By discount allowed on taxes,	3,420 00	
By abatements allowed on taxes,	1,581 56—	$78,537 99

Rate—Eight dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, JOSEPH INGRAHAM. *City Treasurer.*

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TAXES—1859—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$3,330 00	
Amount of County tax committed,	8,336 26	
Amount of City tax committed,	67,258 20—	$78,924 46
Received of Collector, as follows:—		
By cash paid State and City tax,	$66,132 99	
By cash paid County tax,	8,336 26	
Discount on taxes,	3,386 42	
Abatements,	1,061 79—	$78,924 46

Rate—Eight dollars and fifty cents on one thousand dollars. Poll tax, one dollar and fifty cents.

Attest, HORACE C. LEE, *City Treasurer*

TAXES—1860—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$2,775 00	
Amount of County tax committed,	8,892 01	
Amount of City tax committed,	67,393 88	
Additional taxes,	97 37—	$79,158 26
Received of Collector, as follows:—		
By cash paid State tax,	$2,775 00	
By cash paid County tax,	8,892 01	
By cash paid City tax,	62,880 91	
Discount on taxes,	3,484 90	
Abatements,	1,125 44—	$79,158 26

Rate—Eight dollars and twenty cents on one thousand dollars. Poll tax, one dollar and fifty cents.

Attest, HORACE C. LEE, *City Treasurer.*

TAXES—1861—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$3,069 00	
Amount of County tax committed,	12,477 16	
Amount of City tax committed,	68,247 59—	$83,793 75
Received of Collector, as follows:—		
By cash paid State tax,	$3,069 00	
By cash paid County tax,	12,477 16	
By cash paid City tax,	63,429 64	
Discount on taxes,	3,663 47	
Abatements,	1,154 48—	$83,793 75

Rate—Eight dollars and twenty cents on one thousand dollars. Poll tax, one dollar and fifty cents.

Attest. HENRY SMITH, *City Treasurer.*

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TAXES—1862—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$18,414 00	
Amount of County tax committed,	9,548 85	
Amount of City tax committed,	70,011 16—	$97,974 01
Received of Collector, as follows:—		
By cash paid State tax,	$18,414 00	
By cash paid County tax,	9,548 85	
By cash paid City tax,	63,543 70	
Discount on taxes,	4,334 94	
Abatements,	2,132 52—	$97,974 01

Rate—Nine dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1863—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$24,552 00	
Amount of County tax committed,	8,593 96	
Amount of City tax committed,	77,097 14	
Amount assessed for re-imbursement of bounties,	10,000 00—	$120,243 10
Received of Collector, as follows:—		
By cash paid State tax,	$24,552 00	
By cash paid County tax,	8,593 96	
By cash paid City tax,	79,623 17	
Discount on taxes,	5,375 67	
Abatements,	2,098 30—	$120,243 10

Rate—Ten dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1864—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$24,552 00	
Amount of County tax committed,	9,568 32	
Amount of City tax committed,	142,882 52—	$177,002 84
Received of Collector, as follows:—		
By cash paid State tax,	$24,552 00	
By cash paid County tax,	9,568 32	
By cash paid City tax,	130,551 60	
Discount on taxes,	7,940 65	
Abatements,	4,390 27—	$177,002 84

Rate—Fourteen dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

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TAXES—1865—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$66,975 00	
Amount of County tax committed,	11,428 37	
Amount of City tax committed,	143,629 17—	$222,032 54
Received of Collector, as follows:—		
By cash paid State tax,	66,975 00	
By cash paid County tax,	11,428 37	
By cash on account of City tax,	131,334 28	
Discount on taxes,	10,171 91	
Abatements,	2,123 03—	$222,032 54

Rate—Sixteen dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1866—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$42,750 00	
Amount of County tax committed,	11,822 45	
Amount of City tax committed,	226,741 91—	$281,314 36
Received of Collector, as follows:—		
Cash for State tax,	$42,750 00	
Cash for County tax,	11,822 45	
Cash on account of City tax,	211,659 65	
Discount on taxes,	12,966 25	
Abatements,	2,116 01—	$281,314 36

Rate—Eighteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1867—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$71,250 00	
Amount of County tax committed,	17,339 56	
Amount of City tax committed,	227,527 35—	$316,116 91
Received of Collector, as follows:—		
Cash for State tax,	$71,250 00	
Cash for County tax,	17,339 56	
Cash on account of City tax,	210,196 47	
Discount on taxes,	14,560 04	
Abatements,	2,770 84—	$316,116 91

Rate—Seventeen dollars on one thousand dollars. Poll tax, two dollars.

Attest. A. T. FOLSOM, *City Treasurer.*

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TAXES—1868—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$28,500 00	
Amount of County tax committed,	12,610 62	
Amount of City tax committed,	247,127 54—	$288,238 16
Received of Collector, as follows:—		
Cash for State tax,	$28,500 00	
Cash for County tax,	12,610 62	
Cash on account of City tax,	231,850 21	
Discount on taxes,	13,197 98	
Abatements,	2,079 35—	$288,238 16

Rate—Thirteen dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1869—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$35,625 00	
Amount of County tax committed,	14,383 96	
Amount of City tax committed,	339,671 92—	$389,680 88
Received of Collector, as follows:—		
Cash for State tax,	$36,625 00	
Cash for County tax,	14,383 96	
Cash on account of City tax,	318,641 98	
Discount on taxes,	17,833 71	
Abatements,	2,196 23—	$389,680 88

Rate—Sixteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1870—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$35,625 00	
Amount of County tax committed,	15,172 12	
Amount of City tax committed,	261,859 60—	$312,656 72
Received of Collector, as follows:—		
Cash for State tax,	$35,625 00	
Cash for County tax,	15,172 12	
Cash on account of City tax,	245,259 08	
Discount on taxes,	14,304 96	
Abatements,	2,295 56—	$312,656 72

Rate—Twelve dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM. *City Treasurer.*

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TAXES—1871—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$35,625 00	
Amount of County tax committed,	15,526 80	
Amount of City tax committed,	$12,799 82—	$363,951 12
Received of Collector, as follows:—		
Cash for State tax,	$35,625 00	
Cash for County tax,	15,526 80	
Cash on account of City tax,	292,764 80	
Discount on taxes,	16,710 69	
Abatements,	3,323 83—	$363,951 12

Rate—Twelve dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1872—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$38,320 00	
Amount of County tax committed,	20,747 69	
Amount of City tax committed,	393,099 26—	$452,166 95
Received of Collector, as follows:—		
Cash for State tax,	$38,320 00	
Cash for County tax,	20,747 69	
Cash on account of City tax,	368,985 13	
Discount on taxes,	20,584 78	
Abatements,	3,529 35—	$452,166 95

Rate—Thirteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1873—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$43,110 00	
Amount of County tax committed,	42,131 39	
Amount of City tax committed,	529,503 73—	$614,745 12
Received of Collector, as follows:—		
Cash for State tax,	$43,110 00	
Cash for County tax,	42,131 39	
Cash on account of City tax,	496,857 73	
Discount on taxes,	26,736 54	
Abatements,	5,909 46—	$614,745 12

Rate—Sixteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

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TAXES—1874—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$38,320 00	
Amount of County tax committed,	42,131 39	
Amount of City tax committed,	568,425 45—	$648,876 84
Received of Collector, as follows:—		
By cash paid State tax,	$38,320 00	
By cash paid County tax,	42,131 39	
By cash on account of City tax,	535,296 21	
Discount on taxes,	29,125 82	
Abatements,	4,003 42—	$648,876 84

Rate—Sixteen dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1875—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$38,320 00	
Amount of County tax committed,	37,467 61	
Amount of City tax committed,	620,301 03	
Amount of Bank tax committed,	40,310 37—	$736,399 01
Received of Collector, as follows:—		
By cash for State tax,	$38,320 00	
By cash for County tax,	37,467 61	
By cash for Bank tax,	40,310 37	
By cash on account of City tax,	579,921 45	
Discount on taxes,	32,583 17	
Abatements,	7,796 41—	$736,399 01

Rate—Seventeen dollars and twenty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1876—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$39,654 00	
Amount of County tax committed,	40,938 55	
Amount of City tax committed,	503,720 65	
Amount of Bank tax committed,	36,534 12	
Additional poll tax committed,	160 00—	$621,007 32

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Received of Collector, as follows:—

Cash for State tax,	$89,654 00	
Cash for County tax,	40,938 55	
Cash for Bank tax,	86,534 12	
Cash on account of City tax,	498,615 64	
Property deeded to the city,	587 28	
Abatements,	4,677 73—	$621,007 32

Rate—Sixteen dollars and twenty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1877—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$33,045 00	
Amount of County tax committed,	40,938 55	
Amount of City tax committed,	340,216 54	
Amount of Bank tax committed,	28,840 49	
Additional taxes,	82 30—	$443,122 88
Received of Collector, as follows:—		
Amount of State tax,	33,045 00	
Amount of County tax,	40,938 55	
On account of Bank tax,	28,834 62	
On account of City tax,	336,429 04	
Property deeded to the city,	48 43	
Abatements,	3,768 74	
Allowed amount assessed on property deeded to the city,	58 50—	$443,122 88

Rate—Thirteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1878—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$22,030 00	
Amount of County tax committed,	40,938 55	
Amount of City tax committed,	275,447 38	
Amount of Bank tax committed,	22,658 06	
Additional taxes,	85 85—	$361,159 84

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Received of Collector, as follows:—

Amount of State tax,	$22,080 00	
Amount of County tax,	40,938 55	
Amount of Bank tax,	22,658 06	
On account of City tax,	273,493 98	
Abatements,	2,011 75	
Tax on property deeded to the City,	27 50—	$361,159 84

Rate—Eleven dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1879—FRANCIS NORTON, COLLECTOR.

Amount of City tax committed,	$11,015 00	
Amount of County tax committed,	35,053 64	
Amount of Bank tax committed,	24,471 90	
Amount of City tax committed,	322,687 25	
Additional taxes,	206 80—	$393,434 59

Received of Collector, as follows:—

Amount of State tax,	$11,015 00	
Amount of County tax,	35,053 64	
Amount of Bank tax,	24,471 90	
On account of City tax,	320,912 99	
Abatements,	1,981 06—	$393,434 59

Rate—Twelve dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1880—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$33,045 00	
Amount of County tax committed,	39,403 21	
Amount of Bank tax committed,	32,586 12	
Amount of City tax committed,	349,164 57	
Additional taxes,	222 50—	$454,421 40

Received of Collector, as follows:—

Amount of State tax,	$33,045 00	
Amount of County tax,	39,403 21	
Amount of Bank tax,	32,586 12	
On account of City tax,	347,583 21	
Abatements,	1,803 86—	$454,421 40

Rate—Thirteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

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TAXES—1881—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$33,045 00		
Amount of County tax committed,	39,403 21		
Amount of Bank tax committed,	33,635 12		
Amount of City tax committed,	354,234 92		
Additional taxes,	45 50—		$460,363 75
Received of Collector, as follows:—			
Amount of State tax,	$33,045 00		
Amount of County tax,	39,403 21		
Amount of Bank tax,	33,635 12		
On account of City tax,	351,854 12		
Abatements,	2,426 30—		$460,363 75

Rate—Twelve dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1882—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$44,060 00		
Amount of County tax committed,	39,403 21		
Amount of Bank tax committed,	34,105 64		
Amount of City tax committed,	363,421 26		
Additional taxes,	8 50—		$480,998 61
Received of Collector, as follows:—			
Amount of State tax,	$44,060 00		
Amount of County tax,	39,403 21		
Amount of Bank tax,	34,105 64		
On account of City tax,	360,556 41		
Abatements,	2,873 35—		$480,998 61

Rate—Twelve dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1883—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$31,425 00		
Amount of County tax committed,	38,245 42		
Amount of Bank tax committed,	36,619 51		
Amount of City tax committed,	385,793 81		
Additional taxes,	92 50—		$492,176 24

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Received of Collector, as follows:—

Amount of State tax,	$31,425 00	
Amount of County tax,	38,245 42	
Amount of Bank tax,	36,619 51	
On account of City tax,	383,823 75	
Abatements,	2,162 56—	$492,176 24

Rate—Twelve dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1884—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$41,900 00	
Amount of County tax committed,	38,245 42	
Amount of Bank tax committed,	41,894 21	
Amount of City tax committed,	431,005 50	
Additional taxes,	4 00—	$553,049 13

Received of Collector, as follows:—

Amount of State tax,	$41,900 00	
Amount of County tax,	38,245 42	
Amount of Bank tax,	41,894 21	
On account of City tax,	427,652 29	
Abatements,	3,357 21—	$553,049 13

Rate—Fourteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1885—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$31,425 00	
Amount of County tax committed,	38,245 42	
Amount of Bank tax, committed	38,162 97	
Amount of City tax, committed,	409,445 89	
Additional taxes,	66 00—	$517,345 28

Received of Collector, as follows:—

Amount of State tax,	$31,425 00	
Amount of County tax,	38,245 42	
Amount of Bank tax,	38,162 97	
On account of City tax,	406,792 80	
Property deeded to the city,	28 16	
Abatements,	2,691 33—	$517,345 28

Rate—Twelve dollars and eighty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

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TAXES—1886—FRANCIS NORTON, Collector.

Amount of State tax committed,	$31,695 00		
Amount of County tax committed,	44,158 00		
Amount of Bank tax committed,	38,668 51		
Amount of City tax committed,	415,896 19		
Additional taxes,	17 52	—	$530,435 22
Received of Collector, as follows:—			
State tax,	$31,695 00		
County tax,	44,158 00		
Bank tax,	38,668 51		
On account of City tax,	413,144 15		
Abatements,	2,769 56	—	$530,435 22

Rate—Twelve dollars and eighty cents on one thousand dollars. Poll tax, two dollars.

Attest, A. T. FOLSOM, *City Treasurer.*

TAXES—1887—FRANCIS NORTON, Collector.

Amount of State tax committed,	$47,542 50		
Amount of County tax committed,	44,158 00		
Amount of Bank tax committed,	44,247 57		
Amount of City tax committed,	453,960 76		
Additional taxes,	128 26	—	$590,037 09
Received of Collector, as follows:—			
State tax,	$47,542 50		
County tax,	44,158 00		
Bank tax,	44,247 57		
On account of City tax,	450,932 44		
Abatements,	3,156 58	—	$590,037 09

Rate—Thirteen dollars and eighty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1888—FRANCIS NORTON, Collector.

Amount of State tax committed,	$47,542 50		
Amount of County tax committed,	44,158 00		
Amount of Bank tax committed,	43,584 53		
Amount of City tax committed,	473,472 26		
Additional taxes,	227 16		
Additional taxes committed in 1889,	16 32	—	$609,000 77

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Received of Collector, as follows:—

State tax,	$47,542 50	
County tax,	44,158 00	
Bank tax,	43,584 53	
On account of City tax,	469,724 78	
Abatements,	3,990 96—	$609,000 77

Rate—Thirteen dollars and sixty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1889—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$41,220 00	
Amount of County tax committed,	44,028 53	
Amount of Bank tax committed,	40,448 78	
Amount of City tax committed,	485,993 44	
Additional taxes,	140 60—	$611,831 35

Received of Collector, as follows:—

State tax,	$41,220 00	
County tax,	44,028 53	
Bank tax,	40,448 78	
On account of City tax,	481,275 80	
Abatements,	4,858 24—	$611,831 35

Rate—Thirteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1890—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$36,067 50	
Amount of County tax committed,	45,418 77	
Amount of Bank tax committed,	37,692 73	
Amount of City tax committed,	495,243 78	
Additional taxes,	276 76—	$614,699 54

Received of Collector, as follows:—

State tax,	$36,067 50	
County tax,	45,418 77	
Bank tax,	37,692 73	
On account of City tax,	490,851 60	
Abatements,	4,668 94—	$614,699 54

Rate—Twelve dollars and forty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

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TAXES—1891—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$30,915 00	
Amount of County tax committed,	45,418 77	
Amount of Bank tax committed,	36,646 82	
Amount of City tax committed,	553,851 16—	$666,831 75
Received of Collector, as follows:—		
State tax,	$30,915 00	
County tax,	45,418 77	
Bank tax,	36,646 82	
On account of City tax,	548,216 54	
Abatements,	5,634 62—	$666,831 75

Rate—Twelve dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1892—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$38,675 00	
Amount of County tax committed,	53,033 00	
Amount of Bank tax committed,	38,818 82	
Amount of City tax committed,	596,452 83—	$726,979 65
Received of Collector, as follows:—		
State tax,	$38,675 00	
County tax,	53,033 00	
Bank tax,	38,818 82	
On account of City tax,	589,838 41	
Abatements,	6,614 42—	$726,979 65

Rate—Thirteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1893—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$55,250 00	
Amount of County tax committed,	62,675 00	
Amount of Bank tax committed,	38,466 70	
Amount of City tax committed,	618,271 32—	$774,663 02
Received of Collector, as follows:—		
State tax,	$55,250 00	
County tax,	62,675 00	
Bank tax,	38,466 70	
City tax,	611,552 58	
Abatements,	6,718 74—	$774,663 02

Rate—Twelve dollars and eighty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

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TAXES—1894—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$44,200	00	
Amount of County tax committed,	62,675	00	
Amount of Bank tax committed,	35,209	74	
Amount of City tax committed,	595,401	96	
Amount of Military Armory tax committed,	2,303	70	
Amount of Armory Street Crossing tax committed,	2,194	04	$741,984 44

Received of Collector as follows: —

State tax,	$44,200	00	
County tax,	62,675	00	
Bank tax,	35,209	74	
City tax,	589,804	74	
Military Armory tax,	2,303	70	
Armory Street Crossing tax,	2,194	04	
Abatements,	5,597	22	$741,984 44

Rate—Twelve dollars on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1895—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$35,205	00	
Amount of County tax committed,	66,133	41	
Amount of Bank tax committed,	37,037	29	
Amount of City tax committed,	643,830	21	
Amount of Military Armory tax committed,	6,153	70	$788,359 61

Received of Collector as follows: —

State tax,	$35,205	00	
County tax,	66,133	41	
Bank tax,	37,037	29	
City tax,	637,697	06	
Military Armory tax,	6,153	70	
Abatements,	6,133	15	$788,359 61

Rate—Twelve dollars and twenty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1896—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$41,072	50	
Amount of County tax committed,	80,829	55	
Amount of Bank tax committed,	37,071	98	
Amount of City tax committed,	691,449	98	
Amount of Military Armory tax committed,	5,603	70	$856,027 71

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Received of Collector, as follows:—

State tax,	$41,072 50	
County tax,	80,829 55	
Bank tax,	37,071 98	
On account of City tax,	683,871 05	
Military Armory tax,	5,603 70	
Abatements,	7,578 93—	$856,027 71

Rate—Twelve dollars and eighty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1897—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$41,072 50	
Amount of County tax committed,	80,535 73	
Amount of Bank tax committed,	37,144 65	
Amount of City tax committed,	749,880 35	
Amount of Military Armory tax committed,	5,603 70	
Amount of Pasco Road Crossing tax committed,	1,119 53—	$915,356 46

Received of Collector, as follows:—

State tax,	$41,072 50	
County tax,	80,535 73	
Bank tax,	37,144 65	
On account of City tax,	739,002 40	
Military Armory tax,	5,603 70	
Pasco Road Crossing tax,	1,119 53	
Abatements,	10,877 95—	$915,356 46

Rate—Thirteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1898—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$37,065 00	
Amount of County tax committed,	74,492 50	
Amount of Bank tax committed,	39,861 94	
Amount of City tax committed,	824,605 39	
Amount of Military Armory tax committed,	5,603 70—	$981,628 53

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Received of Collector, as follows:—

State tax,	$37,065 00	
County tax,	74,492 50	
Bank tax,	39,861 94	
On account of City tax,	816,731 39	
Military Armory tax,	5,603 70	
Abatements,	7,874 00—	$981,628 53

Rate—Thirteen dollars and eighty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1899—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$37,065 00	
Amount of County tax committed,	71,552 15	
Amount of Bank tax committed,	38,572 49	
Amount of City tax committed,	873,003 21	
Amount of Military Armory tax committed,	5,603 70	
Amount Excise tax Springfield Street Railway committed,	8,312 06—	$1,034,108 61

Received of Collector, as follows:—

State tax,	$37,065 00	
County tax,	71,552 15	
Bank tax,	38,572 49	
On account of City tax,	862,659 73	
Military Armory tax,	5,603 70	
Excise tax Springfield Street Railway,	8,312 06	
Abatements,	10,343 48—	$1,034,108 61

Rate—Thirteen dollars and sixty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1900—FRANCIS NORTON, COLLECTOR.

Amount of State tax committed,	$37,065 00	
Amount of County tax committed,	70,856 77	
Amount of Bank tax committed,	39,652 49	
Amount of City tax committed,	923,295 17	
Amount of Military Armory tax committed,	5,603 70	
Amount of Excise Tax Springfield Street Railway,	8,596 72—	$1,085,069 85

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Received of Collector, as follows:—

State tax,	$37,065 00	
County tax,	70,856 77	
Bank tax,	39,652 49	
On account of City tax,	912,332 16	
Military Armory tax,	5,603 70	
Excise tax Springfield Street Railway,	8,596 72	
Abatements,	10,963 01	—$1,085,069 85

Rate—Thirteen dollars and eighty cents on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1901—WILLIAM H. C. AUGUR, COLLECTOR.

Amount of State tax committed,	$43,365 00	
Amount of County tax committed,	72,385 61	
Amount of Bank tax committed,	40,569 51	
Amount of City tax committed,	956,391 03	
Amount of Military Armory tax committed,	5,603 70	
Amount of Excise tax Springfield Street Railway committed,	9,349 30	—$1,127,664 15

Received of Collector, as follows:—

State tax,	$43,365 00	
County tax,	72,385 61	
Bank tax,	40,569 51	
On account of City tax,	944,902 66	
Military Armory tax,	5,603 70	
Excise tax Springfield Street Railway,	9,349 30	
Abatements,	11,488 37	—$1,127,664 15

Rate—Fourteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, E. T. TIFFT, *City Treasurer.*

TAXES—1902—WILLIAM H. C. AUGUR, COLLECTOR.

Amount of State tax committed,	$37,170 00	
Amount of County tax committed,	72,385 61	
Amount of Bank tax committed,	37,593 93	
Amount of City tax committed,	1,008,776 42	
Amount of Military Armory tax committed,	5,603 70	
Amount of Excise tax Springfield Street Railway committed,	10,086 82	—$1,171,616 48

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Received of Collector, as follows: —

State tax,	$37,170 00	
County tax,	72,385 61	
Bank tax,	37,593 93	
On account of City tax,	998,837 34	
Military Armory tax,	5,603 70	
Excise tax Springfield Street Railway,	10,086 82	
Abatements,	9,939 08—	$1,171,616 48

Rate — Fourteen dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

TAXES—1903—WILLIAM H. C. AUGUR, COLLECTOR.

Amount of State tax committed,	$61,950 00	
Amount of County tax committed,	72,385 61	
Amount of Bank tax committed,	37,031 75	
Amount of City tax committed,	1,027,475 06	
Amount of Military Armory tax committed,	5,603 70	
Amount of Excise tax Springfield Street Railway committed,	10,961 60—	$1,215,407 72

Received of Collector, as follows: —

State tax,	$61,950 00	
County tax,	72,385 61	
Bank tax,	37,031 75	
On account of City tax,	1,018,133 58	
Military Armory tax,	5,603 70	
Excise tax Springfield Street Railway,	10,961 60	
Abatements,	9,341 48—	$1,215,407 72

Rate—Fourteen dollars and sixty cents on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

TAXES—1904—WILLIAM H. C. AUGUR, COLLECTOR.

Amount of State tax committed,	$61,850 00	
Amount of County tax committed,	80,546 62	
Amount of Bank tax committed,	36,153 43	
Amount of City tax committed,	1,047,146 48	
Amount of Military Armory tax committed,	5,677 17	
Amount of Excise tax Springfield Street Railway committed,	11,353 26—	$1,242,726 96

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Received of Collector, as follows:—

State tax,	$61,850 00	
County tax,	80,546 62	
Bank tax,	36,153 43	
On account of City tax,	1,038,340 29	
Military Armory tax,	5,677 17	
Excise tax Springfield Street Railway,	11,353 26	
Abatements,	8,806 19—	$1,242,726 96

Rate—Fourteen dollars and sixty cents on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

TAXES—1905—WILLIAM H. C. AUGUR, COLLECTOR.

Amount of State tax committed,	$98,960 00	
Amount of County tax committed,	74,932 77	
Amount of Bank tax committed,	39,209 52	
Amount of City tax committed,	1,109,312 49	
Amount of Military Armory tax committed,	6,728 38	
Amount of Grade Crossing tax committed,	1,177 05	
Amount of Excise tax Springfield Street Railway committed,	12,132 26—	$1,342,452 47

Received of Collector as follows:—

State tax,	$98,960 00	
County tax,	74,932 77	
Bank tax,	39,209 52	
On account of City tax,	1,096,511 34	
Military Armory tax,	6,728 38	
Grade Crossing tax,	1,177 05	
Excise tax Springfield Street Railway,	12,132 26	
Abatements,	12,801 15—	$1,342,452 47

Rate—Fifteen dollars and forty cents on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

TAXES—1906—CHARLES A. FRAZER, COLLECTOR.

Amount of State tax committed,	$86,590 00
Amount of County tax committed,	89,968 08
Amount of Bank tax committed,	26,876 53
Amount carried forward,	$203,434 61

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Amount brought forward,	$203,434 61		
Amount of City tax committed,	1,157,038 64		
Amount of Military Armory tax committed,	6,611 06		
Amount of Grade Crossing tax committed,	1,111 66		
Amount of Excise tax Springfield Street Railway committed,	12,856 06		
Amount of Special Census tax committed,	820 78	—	$1,381,872 81
Received of Collector as follows: —			
State tax,	$86,590 00		
County tax,	89,968 08		
Bank tax,	26,876 53		
On account of City tax,	1,145,794 34		
Military Armory tax,	6,611 06		
Grade Crossing tax,	1,111 66		
Excise tax Springfield Street Railway,	12,856 06		
Special Census,	820 78		
Abatements,	11,244 30	—	$1,381,872 81

Rate—Fifteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

TAXES—1907—CHARLES A. FRAZER, Collector.

Amount of State tax committed,	$103,280 00		
Amount of County tax committed,	92,566 11		
Amount of Bank tax committed,	26,073 69		
Amount of City tax committed,	1,230,789 52		
Amount of Military Armory tax committed,	6,430 43		
Amount of Excise tax Springfield Street Railway committed,	13,646 75	—	$1,472,786 50
Received of Collector as follows: —			
State tax,	$103,280 00		
County tax,	92,566 11		
Bank tax,	26,073 69		
On account of City tax,	1,220,963 31		
Military Armory tax,	6,430 43		
Excise tax Springfield Street Railway,	13,646 75		
Abatements,	9,826 21	—	$1,472,786 25

Rate—Fifteen dollars on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

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TAXES—1908—CHARLES A. FRAZER, COLLECTOR.

Amount of State tax committed,		$142,010 00	
Amount of County tax committed,		92,465 60	
Amount of Bank tax committed,		26,346 46	
Amount of City tax committed,		1,326,257 02	
Amount of Military Armory tax committed,		922 50	
Amount of Excise tax Springfield Street Railway committed,		13,608 62	
Amount for abating nuisance Kibbe Hollow tax committed,		785 76—	$1,602,395 96
Received of Collector as follows:—			
State tax,	$142,010 00		
County tax,	92,465 60		
Bank tax,	26,346 46		
On account of City tax,	1,313,145 20		
Military Armory tax,	922 50		
Excise tax Springfield Street Railway,	13,608 62		
Abatements,	13,463 23		
On account of abating nuisance Kibbe Hollow,	434 35—		$1,602,395 96

Rate—Fifteen dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

TAXES—1909—CHARLES A. FRAZER, COLLECTOR.

Amount of State tax committed,		$116,190 00	
Amount of County tax committed,		92,465 60	
Amount of Bank tax committed,		25,127 59	
Amount of City tax committed,		1,442,009 18	
Amount of Excise tax Springfield Street Railway committed,		14,214 26	
Amount for abating nuisance Kibbe Hollow tax committed,		785 76—	$1,690,792 39
Received of Collector as follows:—			
State tax,	$116,190 00		
County tax,	92,465 60		
Bank tax,	25,127 59		
On account of City tax,	1,426,950 22		
Amount carried forward,	$1,660,733 91		

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Amount brought forward,	$1,660,733	41	
Excise tax Springfield Street Railway,	14,214	26	
Abatements,	15,349	67	
Abatement on account of abating nuisance Kibbe Hollow,	495	05—	$1,690,792 39

Rate—Fourteen dollars and eighty cents on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

TAXES—1910—CHARLES A. FRAZER, COLLECTOR.

Amount of State tax committed,	$158,345	00	
Amount of County tax committed,	95,413	62	
Amount of Bank tax committed,	29,595	64	
Amount of City tax committed,	1,685,106	13	
Amount of Excise tax Springfield Street Railway committed,	14,671	37—	$1,983,131 76

Received of Collector as follows:—

State tax,	$158,345	00	
County tax,	95,413	62	
Bank tax,	29,595	64	
On account of City tax,	1,665,511	43	
Excise tax Springfield Street Railway,	14,671	37	
Abatements,	19,502	76	
Uncollected taxes,	91	94—	$1,983,131 76

Rate—Fifteen dollars and eighty cents on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

TAXES—1911—CHARLES A. FRAZER, COLLECTOR.

Amount of State tax committed,	$158,345	00	
Amount of County tax committed,	107,858	85	
Amount of Bank tax committed,	33,125	83	
Amount of City tax committed,	1,905,269	89	
Amount of Excise tax Springfield Street Railway committed,	13,441	88—	$2,218,041 45

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Received of Collector as follows:—		
State tax,	$158,345 00	
County tax,	107,858 85	
Bank tax,	33,125 83	
On account of City tax,	1,879,811 96	
Excise tax Springfield Street Railway,	13,441 88	
Abatements,	14,651 96	
Uncollected taxes,	10,805 97—	$2,218,041 45

Rate—Sixteen dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, ELIPHALET T. TIFFT, *City Treasurer.*

TAXES—1912—CHARLES A. FRAZER, COLLECTOR.

Amount of State tax committed,		$182,027 18	
	$179,937 50		
State System of accounts,	2,089 68		
Amount of County tax committed,		105,266 09	
Amount of Bank tax committed,		28,134 82	
Amount of City tax committed,		2,084,141 16	
Amount of Excise tax Springfield Street Railway committed,		14,584 19—	$2,414,153 44
Received of Collector as follows:—			
State tax,		$182,027 18	
County tax,		105,266 09	
Bank tax,		28,134 82	
On account of City tax,		1,604,418 74	
Excise tax Springfield Street Railway,		14,584 19	
Abatements,		11,825 30	
Uncollected taxes,		467,897 12—	$2,414,153 44

Rate—Fifteen dollars and fifty cents on one thousand dollars. Poll tax, two dollars.

Attest, WILLIAM C. MARSH, *City Auditor.*

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ASSESSORS' VALUATION OF PROPERTY.

1852—Total valuation,		$5,180,210 00
1853—Total valuation,		5,509,660 00
1854—Total valuation,		7,762,250 00
1855—Total valuation,		8,409,870 00
1856—Total valuation,		8,284,060 00
1857—Total valuation,		8,558,720 00
1858—Real estate,	$5,702,040 00	
Personal estate,	2,679,100 00	8,381,140 00
1859—Real estate,	5,794,590 00	
Personal estate,	2,845,640 00	8,640,230 00
1860—Real estate,	5,962,480 00	
Personal estate,	2,955,800 00	8,918,280 00
1861—Real estate,	6,417,660 00	
Personal estate,	3,067,920 00	9,485,580 00
1862—Real estate,	6,719,500 00	
Personal estate,	3,039,390 00	9,758,890 00
1863—Real estate,	7,211,320 00	
Personal estate,	3,744,790 00	10,956,110 00
1864—Real estate,	8,536,490 00	
Personal estate,	2,871,430 00	11,407,920 00
1865—Real estate,	9,007,850 00	
Personal estate,	3,784,910 00	12,792,760 00
1866—Real estate,	10,241,540 00	
Personal estate,	4,755,480 00	14,997,020 00
1867—Real estate,	12,758,420 00	
Personal estate,	5,110,810 00	17,869,230 00
1868—Real estate,	15,125,520 00	
Personal estate,	5,322,640 00	20,448,160 00
1869—Real estate,	17,665,610 00	
Personal estate,	5,901,570 00	23,567,180 00
1870—Real estate,	18,443,990 00	
Personal estate,	6,070,070 00	24,514,060 00
1871—Real estate,	20,962,100 00	
Personal estate,	6,589,870 00	27,551,970 00

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1872—Real estate,	$26,098,920 00	
Personal estate,	7,512,230 00	$33,611,150 00
1873—Real estate,	29,380,520 00	
Personal estate,	8,060,300 00	37,440,820 00
1874—Real estate,	30,489,850 00	
Personal estate,	7,846,928 00	38,336,778 00
1875—Real estate,	31,125,660 00	
Personal estate,	8,398,912 40	39,524,572 40
1876—Real estate,	27,647,560 00	
Personal estate,	7,461,896 86	35,109,456 86
1877—Real estate,	23,737,000 00	
Personal estate,	6,955,776 66	30,692,776 66
1878—Real estate,	22,746,330 00	
Personal estate,	6,637,845 72	29,384,175 72
1879—Real estate,	22,211,230 00	
Personal estate,	7,230,094 00	29,441,324 00
1880—Real estate,	22,856,020 00	
Personal estate,	8,292,655 00	31,148,675 00
1881—Real estate,	23,795,920 00	
Personal estate,	8,935,850 00	32,731,770 00
1882—Real estate,	25,084,420 00	
Personal estate,	9,198,258 00	34,282,678 00
1883—Real estate,	25,676,800 00	
Personal estate,	9,260,459 00	34,937,259 00
1884—Real estate,	26,301,150 00	
Personal estate,	8,792,666 00	35,093,816 00
1885—Real estate,	26,969,800 00	
Personal estate,	8,865,928 00	35,835,728 00
1886—Real estate,	27,638,760 00	
Personal estate,	9,143,442 00	36,782,202 00
1887—Real estate,	28,566,280 00	
Personal estate,	9,416,384 17	37,982,664 17
1888—Real estate,	30,323,140 00	
Personal estate,	9,540,115 14	39,863,255 14
1889—Real estate,	32,000,680 00	
Personal estate,	10,072,895 00	42,073,575 00
1890—Real estate,	33,795,860 00	
Personal estate,	10,697,773 00	44,493,633 00
1891—Real estate,	37,219,490 00	
Personal estate,	11,110,144 00	48,329,634 00

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1892—Real estate,	$39,444,580 00	
Personal estate,	11,336,407 00	$50,780,987 00
1893—Real estate,	42,975,820 00	
Personal estate,	12,264,099 00	55,239,919 00
1894—Real estate,	44,083,900 00	
Personal estate,	12,365,525 00	56,449,425 00
1895—Real estate,	46,063,460 00	
Personal estate,	12,969,681 00	59,033,141 00
1896—Real estate,	48,344,280 00	
Personal estate,	13,071,811 00	61,416,091 00
1897—Real estate,	50,344,460 00	
Personal estate,	14,553,919 00	64,898,379 00
1898—Real estate,	52,022,570 00	
Personal estate,	13,677,143 00	65,699,713 00
1899—Real estate,	53,400,770 00	
Personal estate,	16,469,077 00	69,869,847 00
1900—Real estate,	55,676,320 00	
Personal estate,	16,682,161 00	72,358,481 00
1901—Real estate,	57,394,710 00	
Personal estate,	16,944,217 00	74,338,927 00
1902—Real estate,	58,411,160 00	
Personal estate,	16,424,905 40	74,836,065 40
1903—Real estate,	60,787,130 00	
Personal estate,	16,420,768 80	77,207,898 80
1904—Real estate,	62,145,950 00	
Personal estate,	16,722,107 80	78,868,057 80
1905—Real estate,	63,273,330 00	
Personal estate,	17,631,146 80	80,904,476 80
1906—Real estate,	68,239,990 00	
Personal estate,	18,265,191 00	86,505,181 00
1907—Real estate,	73,319,860 00	
Personal estate,	19,058,764 00	92,378,624 00
1908—Real estate,	76,965,520 00	
Personal estate,	20,132,788 00	97,098,308 00
1909—Real estate,	85,403,490 00	
Personal estate,	22,472,290 00	107,875,780 00
1910—Real estate,	94,984,660 00	
Personal estate,	24,097,118 00	119,081,778 00

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1911—Real estate,	$102,393,230 00		
Personal estate,	25,659,804 00	$128,053,034	00
1912—Real estate,	123,602,570 00		
Personal estate	25,927,780 00	149,530,350	00

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CITY OFFICERS.

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CITY OFFICERS.

CITY OFFICERS FOR 1852.

MAYOR—CALEB RICE.

ALDERMEN—Ward One, Samuel S. Day; Ward Two, Eliphalet Trask; Ward Three, E. D. Beach; Ward Four, George Dwight; Ward Five, Albert Morgan; Ward Six, Charles G. Rice; Ward Seven, Oliver B. Bannon; Ward Eight, F. A. Barton.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, Henry Morris; Ward One, J. B. M. Stebbins, Eleazer Ripley, John V. Jones; Ward Two, W. C. Sturtevant, Francis Bates, Henry Fuller, Jr.; Ward Three, Charles Merriam, Willis Phelps, Cicero Simons; Ward Four, Henry Morris, Alexander H. Avery, Benjamin F. Warner; Ward Five, William Hitchcock, Hiram Q. Sanderson, Nathaniel Cate; Ward Six, Henry Adams; Ward Seven, Ezra Kimberly; Ward Eight, Rodney Holt.

CLERK—Alanson Hawley.

CITY CLERK AND TREASURER—Joseph Ingraham.

CITY OFFICERS FOR 1853.

MAYOR—CALEB RICE.

ALDERMEN—Ward One, John B. Stebbins; Ward Two, Eliphalet Trask; Ward Three, Willis Phelps; Ward Four, Henry Vose; Ward Five, Titus Amadon; Ward Six, Drayton Perkins; Ward Seven, Joseph N. Sollace; Ward Eight, Harvey Foster.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, Henry Morris (resigned May 16), William Stowe; Ward One, Daniel Hitchcock, William Pynchon, Addison Day; Ward Two, Joseph C. Pynchon, Orrin Baker, E. W. Bond; Ward Three, Lombard Dale, T. M. Walker, William Stowe; Ward Four, Henry Morris, Alexander H. Avery, Edmund Palmer; Ward Five, Nathanie Cate, William Dickinson, Daniel Collins; Ward Six, Henry Adams; War Seven, Ezra Kimberly; Ward Eight, William S. Barker.

CLERK—Alanson Hawley (resigned March 7), Samuel O. Gay.

CITY CLERK AND TREASURER—Joseph Ingraham.

CITY OFFICERS FOR 1854.

MAYOR—PHILOS B. TYLER.

ALDERMEN—Ward One, Wilson Eddy; Ward Two, Eliphalet Trask; Ward Three, Elkanah Barton; Ward Four, William L. Washburn; Ward Five, Edward F. Moseley; Ward Six, Roderick Lombard; Ward Seven, Joseph Lombard; Ward Eight, Rodney Holt.

CLERK—Joseph Ingraham.

COMMON COUNCILMEM—President, Samuel S. Day; Ward One, Asa Clark, Samuel S. Day, Thomas W. Wason; Ward Two, George H. Roberts, Henry A. Robinson, Roderick Ashley; Ward Three, Philo F. Wilcox, Lombard Dale, Frederick H. Harris; Ward Four, Daniel L. Harris, Tilly Haynes, Joseph B. Hopkins; Ward Five, Daniel Collins, G. W. Harrison, A. H. Clark; Ward Six, Edwin S. Hall; Ward Seven, Harris B. Johnson; Ward Eight, Horace Pease.

CLERK—Charles O. Chapin.

CITY CLERK AND TREASURER—Joseph Ingraham.

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CITY OFFICERS FOR 1855.

MAYOR—ELIPHALET TRASK.

ALDERMEN—Ward One, James M. Blanchard; Ward Two, W. C. Sturtevant; Ward Three, David Smith; Ward Four, Daniel Reynolds; Ward Five, William E. Montague; Ward Six, Henry Adams; Ward Seven, James P. Chapman; Ward Eight, Harvey Foster.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, John M. Stebbins; Ward One, E. B. Haskell, John M. Stebbins, Stephen Morse; Ward Two, O. W. Wilcox, John Hooker, 3d, D. H. Brigham; Ward Three, Francis S. Graves, Rufus Elmer, E. W. Dickinson; Ward Four, Abel B. Howe, John W. Hunt, Jeremiah R. Cadwell; Ward Five, Nathaniel Howard, S. S. Holmes, E. F. Moseley; Ward Six, J. G. Capron; Ward Seven, Luther S. Lewis; Ward Eight, Samuel Webber.

CLERK—Thomas Chubbuck.

CITY CLERK AND TREASURER Joseph Ingraham.

CITY OFFICERS FOR 1856.

MAYOR—ANSEL PHELPS, JR.

ALDERMEN—Ward One, Samuel S. Day; Ward Two, Henry Fuller, Jr.; Ward Three, Edmund Freeman; Ward Four, Stephen C. Bemis; Ward Five, Thomas H. Allen; Ward Six, Henry Alexander, Jr.; Ward Seven, Henry Reynolds; Ward Eight, Samuel Webber.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, James Kirkham; Ward One, Charles O. Russell, Chauncey L. Covell, Hervey Hills; Ward Two, O. W. Wilcox, Henry A. Chapin, Dexter H. Brigham; Ward Three, Dr. Nathan Adams, Charles L. Shaw, George Whitney; Ward Four, James Kirkham, George Walker, John W. Hunt; Ward Five, Otis A. Seamans, E. F. Moseley, Nelson Tyler; Ward Six, Elbridge Barton; Ward Seven, William Smith; Ward Eight, Milton Foster.

CLERK—Charles O. Chapin.

CITY CLERK AND TREASURER—Joseph Ingraham.

CITY OFFICERS FOR 1857.

MAYOR—ANSEL PHELPS, JR.

ALDERMEN—Ward One, Samuel S. Day; Ward Two, Henry Fuller, Jr.; Ward Three, Henry Alexander, Jr.; Ward Four, Stephen C. Bemis; Ward Five, Joseph Hannis; Ward Six, James Warner; Ward Seven, Henry Pomroy; Ward Eight, Samuel Webber, Jr.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, George Walker; Ward One, Charles O. Russell, Chauncey L. Covell, James Stebbins; Ward Two, Erastus Hayes, Lyman King, Francis B. Bacon; Ward Three, Marvin Lincoln, Henry Avery, John R. Hixon; Ward Four, George Walker, Samuel Leonard, William Birnie; Ward Five, Charles Woodman, Luther Upton, George A. Otis; Ward Six, Elbridge Barton; Ward Seven, William Smith; Ward Eight, George A. Cooley.

CLERK—Charles O. Chapin.

CITY CLERK AND TREASURER—Joseph Ingraham.

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CITY OFFICERS FOR 1858.

MAYOR—ANSEL PHELPS, JR.

ALDERMEN—Ward One, Samuel S. Day; Ward Two, Henry Fuller, Jr.; Ward Three, Henry Alexander, Jr.; Ward Four, Stephen C. Bemis; Ward Five, Joseph Hannis; Ward Six, James Warner; Ward Seven, Henry Pomroy; Ward Eight, Samuel Webber, Jr. (resigned), E. A. Fuller.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, John R. Hixon; Ward One, Wilson Eddy, William Pynchon, William L. Smith; Ward Two, Randolph E. Ladd, Ambrose N. Merrick, Charles B. Trask; Ward Three, John R. Hixon, Henry A. Chapin, Gurdon Bill; Ward Four, Samuel Leonard, John W. Hunt, R. G. Shumway; Ward Five, Charles Woodman, George Swetland, John Brooks; Ward Six, Elbridge Barton; Ward Seven, Joseph Wheelock, Jr.; Ward Eight, Erastus King.

CLERK—Charles O. Chapin.

CITY CLERK AND TREASURER—Joseph Ingraham.

CITY OFFICERS FOR 1859.

MAYOR—WILLIAM B. CALHOUN.

ALDERMEN—Ward One, Chauncey L. Covell; Ward Two, Roger S. Moore; Ward Three, Edmund Freeman; Ward Four, Daniel L. Harris; Ward Five, William Hitchcock; Ward Six, J. G. Capron; Ward Seven, Horace Smith; Ward Eight, George W. Holt.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, A. N. Merrick (resigned in May), Samuel Leonard; Ward One, Joshua M. Harrington, Justin M. Cooley, John V. Jones; Ward Two, George H. Roberts, Lewis H. Taylor, Gurdon C. Judson; Ward Three, A. N. Merrick, Daniel Gay, Hosea C. Lombard; Ward Four, Samuel Leonard, Alfred Rowe, Reuben T. Safford; Ward Five, Theodore Bishop, Walter Maynard, Walter North; Ward Six, Isaac D. Gibbons; Ward Seven, Ransley Hall; Ward Eight, Warren L. Shaw.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Joseph Ingraham.

CITY OFFICFRS FOR 1860.

MAYOR—DANIEL L. HARRIS.

ALDEDMEN—Ward One, Edmund B. Haskell; Ward Two, Erastus Hayes; Ward Three, Franklin Chamberlain; Ward Four, John W. Hunt; Ward Five, William Hitchcock; Ward Six, John G. Capron; Ward Seven, William Foster; Ward Eight, George W. Holt.

CLERK—Horace C. Lee.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, Joshua M. Harrington, H. S. Noyes, J. H. Demond; Ward Two, Lewis H. Taylor, George R. Townsley, Charles A. Winchester; Ward Three, William L. Wilcox, John Hamilton, Clark W. Bryan; Ward Four, N. A. Leonard, William Birnie, Alfred Rowe; Ward Five, William Higley, A. F. Strong, Charles Woodman; Ward Six, Robert Crossett; Ward Seven, Orrin Lombard; Ward Eight, Andrew J. Plumer.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Horace C. Lee.

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CITY OFFICERS FOR 1861.

MAYOR—STEPHEN C. BEMIS.

ALDERMEN—Ward One, Henry Gray; Ward Two, Ephriam W. Bond; Ward Three, H. N. Case; Ward Four, Nathaniel Howard; Ward Five, Charles Woodman; Ward Six, Amos Call; Ward Seven, William Smith; Ward Eight, A. J. Plumer.

CLERK—Horace C. Lee.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, H. J. Chapin, J. M. Cooley, J. H. Demond; Ward Two, Lewis H. Taylor, D. H. Brigham, F. B. Bacon; Ward Three, William L. Wilcox, John Hamilton, James M. Skiff; Ward Four, N. A. Leonard, John W. Bliss, Alfred Rowe; Ward Five, William Higley, Otis A. Seamans, A. W. Allen; Ward Six, Aaron C. Barton; Ward Seven, Henry Reynolds; Ward Eight, H. E. Moseley.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Horace C. Lee.

CITY OFFICERS FOR 1862.

MAYOR—STEPHEN C. BEMIS.

ALDERMEN—Ward One, Henry Gray; Ward Two, E. W. Bond; Ward Three, H. N. Case; Ward Four, T. W. Wason; Ward Five, Horace Kibbe; Ward Six, Horace Smith; Ward Seven, William Smith; Ward Eight, H. S. Evans.

CLERK—S. B. Spooner, Jr.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, Horace J. Chapin, L. O. Hanson, L. J. Powers; Ward Two, Sylvester Day, Tim Henry, Eli H. Patch; Ward Three, James M. Skiff, J. E. Taylor, A. F. Jennings; Ward Four, N. A. Leonard, Alfred Rowe, T. M. Walker; Ward Five, P. V. B. Havens, George K. Jacobs, George K. Charter; Ward Six, Aaron C. Barton; Ward Seven, Ezekiel Keith; Ward Eight, H. E. Moseley.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Samuel B. Spooner (resigned September 30), A. T. Folsom.

CITY OFFICERS FOR 1863.

MAYOR—HENRY ALEXANDER, JR.

ALDERMEN—Ward One, Justin M. Cooley; Ward Two, William Patton; Ward Three, William K. Baker; Ward Four, Daniel L. Harris; Ward Five, William Bodurtha; Ward Six, Horace Smith; Ward Seven, Virgil Perkins; Ward Eight, Andrew J. Plumer.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, N. W. Talcott, George S. Haskell, Luther Clark; Ward Two, O. H. Greenleaf, G. R. Townsley, John West; Ward Three, Aaron G. Lord, James M. Skiff, Francis S. Graves; Ward Four, N. A. Leonard, A. L. Soule, Henry S. Lee; Ward Five, Cheney Bigelow, George K. Charter (resigned), Charles Phelps, Orlando Chapin (resigned), William Collins; Ward Six, J. G. Chase; Ward Seven, C. P. L. Warner; Ward Eight, Hiram Warner.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1864.

MAYOR—HENRY ALEXANDER, JR.

ALDERMEN—Ward One, Norman W. Talcott; Ward Two, William Patton; Ward Three, Albert D. Briggs; Ward Four, Frederick H. Harris; Ward Five, Charles Barrows; Ward Six, Warren H. Wilkinson; Ward Seven, Virgil Perkins; Ward Eight, Harvey E. Moseley.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, Henry S. Hyde, John Mulligan, Charles H. Allen; Ward Two, O. H. Greenleaf, G. R. Townsley, J. F. Tannatt; Ward Three, Charles A. Winchester, W. H. Smith, A. N. Merrick; Ward Four, N. A. Leonard, A. L. Soule, Henry S. Lee; Ward Five, Charles Phelps, William Collins, S. W. Porter; Ward Six, L. H. Taylor; Ward Seven, Peter Valentine; Ward Eight, George Foster.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1865.

MAYOR—ALBERT D. BRIGGS.

ALDERMEN—Ward One, Henry S. Hyde; Ward Two, George R. Townsley; Ward Three, Otis Childs; Ward Four, Frederick H. Harris; Ward Five, Charles Barrows; Ward Six, Warren H. Wilkinson; Ward Seven, Virgil Perkins; Ward Eight, Andrew J. Plumer.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, John Mulligan, W. H. Allis, H. S. Noyes; Ward Two, Gideon Wells, John Olmsted, J. F. Tannatt; Ward Three, William H. Smith, J. F. Tapley, H. N. Tinkham; Ward Four, N. A. Leonard, Henry S. Lee, S. J. Hall; Ward Five, Charles Phelps, S. W. Porter, J. Q. A. Sexton; Ward Six, Gustavus D. Tapley; Ward Seven, Rawson Hathaway; Ward Eight, George Foster.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1866.

MAYOR—ALBERT D. BRIGGS.

ALDERMEN—Ward One, William Pynchon; Ward Two, D. H. Brigham; Ward Three, Tim Henry; Ward Four, F. H. Harris; Ward Five, G. W. Harrison; Ward Six, W. H. Wilkinson; Ward Seven, John G. Taylor (died), Rawson Hathaway; Ward Eight, John Severson.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, William L. Smith; Ward One, J. H. Demond, Warren Emerson, J. C. McIntosh; Ward Two, Gideon Wells, H. M. Morehouse, George Dwight, Jr.; Ward Three, H. N. Tinkham, William H. Smith, Joseph H. Damon; Ward Four, D. B. Wesson, William L. Smith, W. S. Marsh; Ward Five, Charles Phelps, S. W. Porter, Charles Chapman; Ward Six, Gustavus D. Tapley; Ward Seven, John M. Meggett; Ward Eight, Samuel Mills.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1867.

MAYOR—ALBERT D. BRIGGS.

ALDERMEN—Ward One, John Mulligan; Ward Two, Tim Henry; Ward Three, H. N. Tinkham; Ward Four, F. H. Harris; Ward Five, Samuel W. Porter; Ward Six, Amos Call; Ward Seven, Rawson Hathaway; Ward Eight, John Severson.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, William L. Smith; Ward One, J. C. McIntosh, Warren Emerson, J. H. Demond; Ward Two, H. M. Morehouse, C. S. Hurlbut, L. A. Tifft; Ward Three, Charles Marsh, H. K. W. Dickinson, P. S. Bailey; Ward Four, W. L. Smith, W. S. Marsh, L. J. Powers; Ward Five, Charles Chapman, A. H. Clark, J. S. Brown; Ward Six, Charles A. Call; Ward Seven, E. W. Clark; Ward Eight, Samuel Mills.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1868.

MAYOR—CHARLES A. WINCHESTER.

ALDERMEN—Ward One, John Mulligan; Ward Two, Tim Henry; Ward Three, H. N. Tinkham; Ward Four, W. S. Marsh; Ward Five, Samuel W. Porter; Ward Six, Amos Call; Ward Seven, E. W. Clark; Ward Eight, Milo Chapin.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, Warren Emerson, Josiah Bumstead, Roswell Lee; Ward Two, O. H. Greenleaf, Charles R. Ladd, Lewis A. Tifft; Ward Three, E. H. Patch, A. J. McIntosh, William H. Smith; Ward Four, Henry S. Lee, E. G. Norton, M. A. Clyde; Ward Five, Cyrus E. Buckland, Alden Warner, William R. Purple; Ward Six, George E. Howard; Ward Seven, Charles Gage; Ward Eight, George Swetland.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1869.

MAYOR—CHARLES A. WINCHESTER.

ALDERMEN—Ward One, J. M. Cooley; Ward Two, George Dwight; Ward Three, William H. Smith; Ward Four, W. S. Marsh; Ward Five, Joseph M. Hall; Ward Six, George E. Howard; Ward Seven, Charles Gage; Ward Eight, Charles J. Goodwin.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, George M. Atwater, Josiah Bumstead, John Olmsted; Ward Two, Charles R. Ladd, O. H. Greenleaf, C. C. Smith; Ward Three, A. J. McIntosh, E. H. Patch, J. H. Appleton; Ward Four, Henry S. Lee, E. G. Norton, L. J. Powers; Ward Five, Alden Warner, E. B. Haskell, W. P. Taylor; Ward Six, I. P. Dickinson; Ward Seven, William H. Pinney; Ward Eight, George Swetland.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1870.

MAYOR—WILLIAM L. SMITH.

ALDERMEN—Ward One, J. A. Rumrill; Ward Two, Eliphalet Trask; Ward Three, Dr. John Hooker; Ward Four, Willis Phelps; Ward Five, Joseph M. Hall; Ward Six, I. P. Dickinson; Ward Seven, William H. Pinney; Ward Eight, George Foster.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, Albert Holt, A. D. Day, C. B. Holbrook; Ward Two, George Dwight, Jr., James S. Bourke, David Legro; Ward Three, James E. McIntire, George W. Tapley, George S. Lewis; Ward Four, Henry S. Lee, Gurdon Bill, S. R. Phillips; Ward Five, Charles Phelps, William B. Miller, T. B. Wilson; Ward Six, George E. Howard; Ward Seven, John A. Hall; Ward Eight, Alfred S. Packard.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1871.

MAYOR—WILLIAM L. SMITH.

ALDERMEN—Ward One, Josiah Bumstead; Ward Two, Charles R. Ladd; Ward Three, Lawson Sibley; Ward Four, James M. Thompson; Ward Five, Richard F. Hawkins; Ward Six, Isaac P. Dickinson; Ward Seven, John A. Hall; Ward Eight, Noyes Barstow.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, Albert Holt, P. W. Brewster, F. J. Donahue; Ward Two, Milton Bradley, Tilly Haynes, R. Warren; Ward Three, B. C. English, S. B. Spooner, N. C. Newell; Ward Four, Henry S. Lee, Henry M. Phillips, E. A. Perkins; Ward Five, T. B. Wilson, J. C. Perry, E. B. Maynard; Ward Six, George E. Howard; Ward Seven, J. W. Lull; Ward Eight, George Swetland.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1872.

MAYOR—SAMUEL B. SPOONER.

ALDERMEN—Ward Two, Charles R. Ladd; Ward Three, William H. Smith; Ward Four, Emerson Wight; Ward Five, Joseph M. Hall, R. F. Hawkins; Ward Six, George E. Howard; Ward Seven, William H. Pinney; Ward Eight, Noyes Barstow.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, M. P. Knowlton; Ward One, F. J. Donahue, L. H. Powers, N. W. Fisk; Ward Two, O. H. Greenleaf, George W. Ray, Henry F. Trask; Ward Three, N. C. Newell, Samuel Palmer, George M. Smith; Ward Four, E. A. Perkins, H. M. Phillips, V. N. Taylor; Ward Five, M. P. Knowlton, E. B. Maynard, P. H. M. Brooks; Ward Six, E. A. Newell; Ward Seven, J. W. Lull; Ward Eight, W. L. Converse.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1873.

MAYOR—SAMUEL B. SPOONER.

ALDERMEN—Ward One, H. S. Hyde; Ward Two, George W. Ray; Ward Three, E. H. Patch; Ward Four, Emerson Wight; Ward Five, R. F. Hawkins; Ward Six, George E. Howard; Ward Seven, L. A. Tifft; Ward Eight, Noyes Barstow.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, M. P. Knowlton; Ward One, Florence J. Donahue, Noyes W. Fisk, Albert Holt; Ward Two, O. H. Greenleaf, H. F. Trask, S. C. Warriner; Ward Three, Joseph K. Newell, Charles M. Lee, Charles M. King; Ward Four, Varnum N. Taylor, E. A. Perkins, H. M. Phillips; Ward Five, M. P. Knowlton, J. D. McKnight, W. G. Chamberlain; Ward Six, E. A. Newell; Ward Seven, B. F. Farrar; Ward Eight, John Warriner.

CLERK—John A. Hall.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1874.

MAYOR—JOHN M. STEBBINS.

ALDERMEN—Ward One, Albert Holt; Ward Two, Hugh Donnelly; Ward Three, A. J. McIntosh; Ward Four, L. J. Powers; Ward Five, Albert W. Allen; Ward Six, I. P. Dickinson; Ward Seven, J. W. Lull; Ward Eight, Henry C. Fuller.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, T. B. Wilson; Ward One, D. J. Curtis, Horace Wheeler, James A. Byrnes; Ward Two, L. B. Lillie, M. L. Tourtellotte, P. J. Ryan; Ward Three, B. S. Haskins, Charles A. King, August Sheppert; Ward Four, J. H. Appleton, Homer Foot, Jr., D. J. Marsh; Ward Five, W. G. Chamberlain, T. B. Wilson, Benjamin Hannis; Ward Six, Daniel Schoonmaker; Ward Seven, E. W. Ladd; Ward Eight, John Warriner.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1875.

MAYOR—EMERSON WIGHT.

ALDERMEN—Ward One, Hinsdale Smith; Ward Two, D. H. Brigham; Ward Three, F. H. Fuller; Ward Four, L. J. Powers; Ward Five, W. G. Chamberlain; Ward Six, Amos Call; Ward Seven, Rawson Hathaway; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, Horace Wheeler, James A. Byrnes, N. W. Fisk; Ward Two, S. E. Seymour, H F. Trask, M. L. Tourtellotte; Ward Three, J. K. Newell, A. J. Plumer, J. K. Winter; Ward Four, Henry S. Lee, D. L. Harris, J. S. Carr; Ward Five, B. S. Haskins, Benjamin Hannis, E. S. Stacy; Ward Six, Daniel Schoonmaker; Ward Seven, E. P. Cook; Ward Eight, D. P. Woolson.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1876.

MAYOR—EMERSON WIGHT.

ALDERMEN—Ward One, N. W. Talcott; Ward Two, George Dwight; Ward Three, J. K. Newell; Ward Four, Henry S. Lee; Ward Five, N. I. Hawley; Ward Six, D. L. Swan; Ward Seven, Rawson Hathaway; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, H. F. Trask; Ward One, John Mulligan, J. M. Cooley, J. J. Moore; Ward Two, Milton Bradley, H. F. Trask, M. L. Tourtellotte; Ward Three, H. N. Tinkham, J. F. Tapley, Elijah Nichols; Ward Four, W. S. Shurtleff, D. L. Harris, J. S. Carr; Ward Five, H. W. Phelps, Edwin McElwain, E. S. Stacy; Ward Six, R. R. McGregor; Ward Seven, Larkin Newell; Ward Eight, Samuel F. Smith.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1877.

MAYOR—EMERSON WIGHT.

ALDERMEN—Ward One, John Olmsted; Ward Two, George Dwight; Ward Three, J. F. Tapley; Ward Four, Henry S. Lee; Ward Five, N. I. Hawley (resigned), Benj. Hannis; Ward Six, D. L. Swan; Ward Seven, W. H. Pinney; Ward Eight, H. K. Wight.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, H. F. Trask; Ward One, John Mulligan, N. W. Fisk, L. H. Powers; Ward Two, H. F. Trask, M. L. Tourtellotte, George E. Frink; Ward Three, H. N. Tinkham, Elijah Nichols, George B. Smith; Ward Four, Daniel L. Harris, William S. Shurtleff, J. K. Newell; Ward Five, Edwin McElwain, John A. Hall, A. J. Wright; Ward Six, H. C. Puffer; Ward Seven, E. W. Ladd; Ward Eight, Milo Chapin.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1878.

MAYOR—EMERSON WIGHT.

ALDERMEN—Ward One, John Olmsted; Ward Two, George Dwight; Ward Three, J. F. Tapley; Ward Four, Henry S. Lee; Ward Five, John A. Hall; Ward Six, D. L. Swan; Ward Seven, W. H. Pinney; Ward Eight, H. K. Wight.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, A. J. Wright; Ward One, John Mulligan, L. H. Powers, E. Belding; Ward Two, Dr. H. G. Stickney, Dr. A. R. Rice, E. M. Bartlett; Ward Three, Elijah Nichols, George B. Smith, J. R. Smith; Ward Four, W. S. Shurtleff, J. K. Newell, H. A. Gould; Ward Five, A. J. Wright, N. W. Howard, S. L. Hodgdon; Ward Six, George R. Dickinson; Ward Seven, Edwin W. Ladd; Ward Eight, F. M. Bardwell.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1879.

MAYOR—LEWIS J. POWERS.

ALDERMEN—Ward One, John Olmsted; Ward Two, George Dwight; Ward Three, J. F. Tapley; Ward Four, George W. Tapley; Ward Five, Benjamin Hannis; Ward Six, George R. Dickinson; Ward Seven, E. W. Ladd; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, J. R. Smith; Ward One, John Mulligan, E. Belding, J. W. Baldwin; Ward Two, E. H. Phelps, Horace Jacobs, F. A. Judd; Ward Three, J. R. Smith, Elijah Nichols, Frank E. Winter; Ward Four, Henry A. Gould, George B. Holbrook, C. J. Sanderson; Ward Five, N. W. Howard, S. L. Hodgdon, M. J. Chamberlain; Ward Six, E. M. Lombard; Ward Seven, Charles Taylor; Ward Eight, F. M. Bardwell.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1880.

MAYOR—LEWIS J. POWERS.

ALDERMEN—Ward One, John Olmsted; Ward Two, S. C. Warriner; Ward Three, J. F. Tapley; Ward Four, George W. Tapley; Ward Five, Benjamin Hannis; Ward Six, George R. Dickinson; Ward Seven, E. W. Ladd; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Elijah Belding; Ward One, E. Belding, Ethan C. Robinson, Harlan P. Stone; Ward Two, Fred A. Judd, E. H. Young, E. M. Bartlett; Ward Three, Elijah Nichols, Frank E. Winter, Emory Meekins; Ward Four, George B. Holbrook, Charles J. Sanderson, William H. Haile; Ward Five, Nathaniel W. Howard, Sewall L. Hodgdon, James D. Gill; Ward Six, Edward M. Lombard; Ward Seven, Charles Taylor; Ward Eight, Frank M. Bardwell.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1881.

MAYOR—WILLIAM H. HAILE.

ALDERMEN—Ward One, Elijah Belding; Ward Two, Stephen E. Seymour; Ward Three, Elijah Nichols; Ward Four, Edward P. Chapin; Ward Five, Oscar D. Adams; Ward Six, Edward M. Lombard; Ward Seven, George Nye; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Charles J. Sanderson; Ward One, Harlan P. Stone, Hoyt E. Howard, Henry J. Beebe; Ward Two, Fred A. Judd, Edwin M. Bartlett, John Lobsitz; Ward Three, George P. Stebbins, Jacob C. Lutz, Simpson Clark; Ward Four, Charles J. Sanderson, William B. Walker, Edmund P. Kendrick; Ward Five, James D. Gill, Henry Dana, James F. Brierly; Ward Six, Albert E. Foth; Ward Seven, William C. Bemis; Ward Eight, George Foster.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom

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CITY OFFICERS FOR 1882.

MAYOR—EDWIN W. LADD.

ALDERMEN—Ward One, Henry D. Carroll; Ward Two, Stephen E. Seymour; Ward Three, Elijah Nichols; Ward Four, Edward P. Chapin; Ward Five, Oscar D. Adams; Ward Six, Edward M. Lombard; Ward Seven, George Nye; Ward Eight, Davenport L. Fuller.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, Edmund P. Kendrick; Ward One, Harlan P. Stone, Henry J. Beebe, Ethan C. Robinson; Ward Two, Fred A. Judd, Frank M. Bugbee, Frank E. Carpenter; Ward Three, Simpson Clark, Jacob C. Lutz, James D. Parsons; Ward Four, Edmund P. Kendrick, James C. Alden, Edward C. Rogers; Ward Five, Henry Dana, Charles E. Dodge, Charles Fuller; Ward Six, George McGregory; Ward Seven, John S. Sanderson; Ward Eight, Edward D. Chapman.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1883.

MAYOR—HENRY M. PHILLIPS.

ALDERMEN—Ward One, Harlan P. Stone; Ward Two, Fred A. Judd; Ward Four, James Kirkham; Ward Four, James C. Alden; Ward Five, James D. Gill; Ward Six, Charles A. Call; Ward Seven, George Nye; Ward Seven, John S. Sanderson.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, E. P. Kendrick; Ward One, Charles McKay, J. F. Callanan, John L. Knight; Ward Two, Frank E. Carpenter, Frank M. Bugbee, James A. Bill, Jr.; Ward Three, Jacob C. Lutz, Simpson Clark, W. F. Cook; Ward Four, Edmund P. Kendrick, Edward C. Rogers, Thomas D. Lyon; Ward Five, George H. Wells, James Kimball, Whiteman T. Steere; Ward Six, Oscar S. Greenleaf; Ward Seven, George W. Hall; Ward Eight, John Rivers.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1884.

MAYOR—HENRY M. PHILLIPS.

ALDERMEN—Ward Two, Andrew Y. Beach; Ward Three, Jacob C. Lutz; Ward Four, George W. Tapley; Ward Five, Henry M. Brewster; Ward Six, Charles A. Call; Ward Seven, George Nye, John S. Sanderson; Ward Eight, Davenport L. Fuller.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Edward C. Rogers; Ward One, Henry L. Whitcomb, John L. Knight, Patrick C. O'Connor; Ward Two, Hosea C. Lombard, James A. Bill, Jr., James N. Dodge; Ward Three, Simpson Clark, George F. Clark, James S. Adams; Ward Four, Edward C. Rogers, Charles L. Long, Thomas D. Lyon; Ward Five, George H. Wells, James Kimball, J. H. Hendrick; Ward Six, Oscar S. Greenleaf; Ward Seven, George W. Hall; Ward Eight, John Rivers.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1885.

MAYOR—HENRY M. PHILLIPS.

ALDERMEN—Ward One, John L. Knight; Ward Two, Andrew Y. Beach; Ward Three, Jacob C. Lutz; Ward Four, Daniel P. Crocker; Ward Five, Charles Taylor; Ward Six, Charles A. Call; Ward Seven, John S. Sanderson; Ward Eight, George W. Miller.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Charles L. Long; Ward One, George E. Frink, James F. Bidwell, Henry M. Castle; Ward Two, James A. Bill, Jr., Hosea C. Lombard, Edwin F. Lyford; Ward Three, Edgar C. Whittemore, Richard D. Whitney, John H. Clune; Ward Four, Henry H. Bowman, Charles L. Long, Alfred N. Mayo; Ward Five, George H. Wells, Joel H. Hendrick, James Kimball; Ward Six, Oscar S. Greenleaf; Ward Seven, Richard W. Pinney; Ward Eight, Horatio E. D. Green.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1886.

MAYOR—EDWIN D. METCALF.

ALDERMEN—President, Andrew Y. Beach; Ward One, James F. Bidwell; Ward Two, Andrew Y. Beach; Ward Three, George B. Holbrook; Ward Four, George W. Tapley; Ward Five, Joel H. Hendrick; Ward Six, Walter H. Wesson; Ward Seven, Richard W. Pinney; Ward Eight, George W. Miller.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Charles L. Long; Ward One, George E. Frink, Charles A. Fisk, R. Hale Smith; Ward Two, James A. Bill, Jr., Edwin F. Lyford, Samuel J. Whyte; Ward Three, John H. Clune, Claudius C. Margerum, William F. Callender; Ward Four, Charles L. Long, Henry H. Bowman, Alfred N. Mayo; Ward Five, Thomas S. Stewart, Edward S. Bradford, Marcus M. Kendall; Ward Six, William L. Dickinson; Ward Seven, George W. Hall; Ward Eight, Horatio E. D. Green.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1887.

MAYOR—E. B. MAYNARD.

ALDERMEN—President, James F. Bidwell; Ward One, James F. Bidwell; Ward Two, Frank M. Bugbee; Ward Three, William F. Callender; Ward Four, William H. Wright; Ward Five, Sherman D. Porter; Ward Six, William L. Dickinson; Ward Seven, Richard W. Pinney; Ward Eight, John Rivers.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, Henry H. Bowman; Ward One, Frederick H. Stebbins, John Dollan, Frank C. Leonard; Ward Two, Frank S. Crane, James A. Bill, Jr., Newrie D. Winter; Ward Three, Claudius C. Margerum, James E. Dunleavy, Howard N. Newell; Ward Four, Henry H. Bowman, William W. More, Charles E. Brown; Ward Five, Edward S. Bradford, Marcus M. Kendall, William C. Newell; Ward Six, Edward J. Flannery; Ward Seven, Landomer E. Pease; Ward Eight, James H. Morley.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1888.

MAYOR—E. B. MAYNARD.

ALDERMEN—President, Frank M. Bugbee; Ward One, John C. McIntosh; Ward Two, Frank M. Bugbee; Ward Three, Lawson Sibley; Ward Four, William H. Wright; Ward Five, Sherman D. Porter; Ward Six, William L. Dickinson; Ward Seven, Richard W. Pinney; Ward Eight, John Rivers.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Newrie D. Winter; Ward One, Frederick H. Stebbins, Frank C. Leonard, George W. Turner; Ward Two, Newrie D. Winter, Charles C. Parkhurst, Edward F. Tower; Ward Three, James E. Dunleavy, Frederick S. Newman, Leonard Schadt; Ward Four, William W. More, Charles E. Brown, George Leonard; Ward Five, Edward S. Bradford, Marcus M. Kendall, James W. Anderson; Ward Six, Edward J. Flannery; Ward Seven, Charles E. Ladd; Ward Eight, E. A. Grise.

CLERK—Tom Fitzgibbon.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

CITY OFFICERS FOR 1889.

MAYOR—EDWARD S. BRADFORD.

ALDERMEN—President, John C. McIntosh; Ward One, John C. McIntosh; Ward Two, Charles C. Parkhurst; Ward Three, Herbert C. Puffer; Ward Four, John A. Murphy; Ward Five, John McFethries; Ward Six, Henry S. Dickinson; Ward Seven, George W. Hall; Ward Eight, Orson Moulton.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, George Leonard; Ward One, George W. Turner, Leroy Z. Cutler, William F. Ray; Ward Two, Waldo R. Forrester, Francke W. Dickinson, Dr. George E. Foster; Ward Three, Leonard Schadt, Jacob G. Lutz, John P. Casman; Ward Four, William W. More, George Leonard, Charles Van Vlack; Ward Five, Milan W. Bull, Ruel R. Nickerson, Thomas H. Benton; Ward Six, Cornelius W. Phillips; Ward Seven, Charles E. Ladd; Ward Eight, Loren W. King.

CLERK—Andrew O. McGarrett.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

CITY OFFICERS FOR 1890.

MAYOR—EDWARD S. BRADFORD.

ALDERMEN—President, Henry S. Dickinson; Ward One, George W. Turner; Ward Two, Charles C. Parkhurst; Ward Three, George B. Holbrook; Ward Four, John A. Murphy; Ward Five, Edmund P. Kendrick; Ward Six, Henry S. Dickinson; Ward Seven, George W. Hall; Ward Eight, Orrin E. Tilley.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, George Leonard; Ward One, Leroy Z. Cutler, William F. Ray, Louis C. Hyde, Ward Two, Francke W. Dickinson, George D Fisk, John B. King; Ward Three, John P. Casman, Arthur A. Couch, George J. Seuss; Ward Four, George Leonard, Charles Van Vlack, Frederick H. Gillett; Ward Five, Milan W. Bull, George H. Clark, George H. Kemater; Ward Six, Cornelius W. Phillips; Ward Seven, Benjamin C. Harvey; Ward Eight, Charles E. Jennings.

CLERK—Andrew O. McGarrett.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

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CITY OFFICERS FOR 1855.

MAYOR—ELIPHALET TRASK.

ALDERMEN—Ward One, James M. Blanchard; Ward Two, W. C. Sturtevant; Ward Three, David Smith; Ward Four, Daniel Reynolds; Ward Five, William E. Montague; Ward Six, Henry Adams; Ward Seven, James P. Chapman; Ward Eight, Harvey Foster.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, John M. Stebbins; Ward One, E. B. Haskell, John M. Stebbins, Stephen Morse; Ward Two, O. W. Wilcox, John Hooker, 3d, D. H. Brigham; Ward Three, Francis S. Graves, Rufus Elmer, E. W. Dickinson; Ward Four, Abel B. Howe, John W. Hunt, Jeremiah R. Cadwell; Ward Five, Nathaniel Howard, S. S. Holmes, E. F. Moseley; Ward Six, J. G. Capron; Ward Seven, Luther S. Lewis; Ward Eight, Samuel Webber.

CLERK—Thomas Chubbuck.

CITY CLERK AND TREASURER Joseph Ingraham.

CITY OFFICERS FOR 1856.

MAYOR—ANSEL PHELPS, JR.

ALDERMEN—Ward One, Samuel S. Day; Ward Two, Henry Fuller, Jr.; Ward Three, Edmund Freeman; Ward Four, Stephen C. Bemis; Ward Five, Thomas H. Allen; Ward Six, Henry Alexander, Jr.; Ward Seven, Henry Reynolds; Ward Eight, Samuel Webber.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, James Kirkham; Ward One, Charles O. Russell, Chauncey L. Covell, Hervey Hills; Ward Two, O. W. Wilcox, Henry A. Chapin, Dexter H. Brigham; Ward Three, Dr. Nathan Adams, Charles L. Shaw, George Whitney; Ward Four, James Kirkham, George Walker, John W. Hunt; Ward Five, Otis A. Seamans, E. F. Moseley, Nelson Tyler; Ward Six, Elbridge Barton; Ward Seven, William Smith; Ward Eight, Milton Foster.

CLERK—Charles O. Chapin.

CITY CLERK AND TREASURER—Joseph Ingraham.

CITY OFFICERS FOR 1857.

MAYOR—ANSEL PHELPS, JR.

ALDERMEN—Ward One, Samuel S. Day; Ward Two, Henry Fuller, Jr.; Ward Three, Henry Alexander, Jr.; Ward Four, Stephen C. Bemis; Ward Five, Joseph Hannis; Ward Six, James Warner; Ward Seven, Henry Pomroy; Ward Eight, Samuel Webber, Jr.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, George Walker; Ward One, Charles O. Russell, Chauncey L. Covell, James Stebbins; Ward Two, Erastus Hayes, Lyman King, Francis B. Bacon; Ward Three, Marvin Lincoln, Henry Avery, John R. Hixon; Ward Four, George Walker, Samuel Leonard, William Birnie; Ward Five, Charles Woodman, Luther Upton, George A. Otis; Ward Six, Elbridge Barton; Ward Seven, William Smith; Ward Eight, George A. Cooley.

CLERK—Charles O. Chapin.

CITY CLERK AND TREASURER—Joseph Ingraham.

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CITY OFFICERS FOR 1858.

MAYOR—ANSEL PHELPS, JR.

ALDERMEN—Ward One, Samuel S. Day; Ward Two, Henry Fuller, Jr.; Ward Three, Henry Alexander, Jr.; Ward Four, Stephen C. Bemis; Ward Five, Joseph Hannis; Ward Six, James Warner; Ward Seven, Henry Pomroy; Ward Eight, Samuel Webber, Jr. (resigned), E. A. Fuller.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, John R. Hixon; Ward One, Wilson Eddy, William Pynchon, William L. Smith; Ward Two, Randolph E. Ladd, Ambrose N. Merrick, Charles B. Trask; Ward Three, John R. Hixon, Henry A. Chapin, Gurdon Bill; Ward Four, Samuel Leonard, John W. Hunt, R. G. Shumway; Ward Five, Charles Woodman, George Swetland, John Brooks; Ward Six, Elbridge Barton; Ward Seven, Joseph Wheelock, Jr.; Ward Eight, Erastus King.

CLERK—Charles O. Chapin.

CITY CLERK AND TREASURER—Joseph Ingraham.

CITY OFFICERS FOR 1859.

MAYOR—WILLIAM B. CALHOUN.

ALDERMEN—Ward One, Chauncey L. Covell; Ward Two, Roger S. Moore; Ward Three, Edmund Freeman; Ward Four, Daniel L. Harris; Ward Five, William Hitchcock; Ward Six, J. G. Capron; Ward Seven, Horace Smith; Ward Eight, George W. Holt.

CLERK—Joseph Ingraham.

COMMON COUNCILMEN—President, A. N. Merrick (resigned in May), Samuel Leonard; Ward One, Joshua M. Harrington, Justin M. Cooley, John V. Jones; Ward Two, George H. Roberts, Lewis H. Taylor, Gurdon C. Judson; Ward Three, A. N. Merrick, Daniel Gay, Hosea C. Lombard; Ward Four, Samuel Leonard, Alfred Rowe, Reuben T. Safford; Ward Five, Theodore Bishop, Walter Maynard, Walter North; Ward Six, Isaac D. Gibbons; Ward Seven, Ransley Hall; Ward Eight, Warren L. Shaw.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Joseph Ingraham.

CITY OFFICFRS FOR 1860.

MAYOR—DANIEL L. HARRIS.

ALDEDMEN—Ward One, Edmund B. Haskell; Ward Two, Erastus Hayes; Ward Three, Franklin Chamberlain; Ward Four, John W. Hunt; Ward Five, William Hitchcock; Ward Six, John G. Capron; Ward Seven, William Foster; Ward Eight, George W. Holt.

CLERK—Horace C. Lee.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, Joshua M. Harrington, H. S. Noyes, J. H. Demond; Ward Two, Lewis H. Taylor, George R. Townsley, Charles A. Winchester; Ward Three, William L. Wilcox, John Hamilton, Clark W. Bryan; Ward Four, N. A. Leonard, William Birnie, Alfred Rowe; Ward Five, William Higley, A. F. Strong, Charles Woodman; Ward Six, Robert Crossett; Ward Seven, Orrin Lombard; Ward Eight, Andrew J. Plumer.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Horace C. Lee.

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CITY OFFICERS FOR 1861.

MAYOR—STEPHEN C. BEMIS.

ALDERMEN—Ward One, Henry Gray; Ward Two, Ephriam W. Bond; Ward Three, H. N. Case; Ward Four, Nathaniel Howard; Ward Five, Charles Woodman; Ward Six, Amos Call; Ward Seven, William Smith; Ward Eight, A. J. Plumer.

CLERK—Horace C. Lee.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, H. J. Chapin, J. M. Cooley, J. H. Demond; Ward Two, Lewis H. Taylor, D. H. Brigham, F. B. Bacon; Ward Three, William L. Wilcox, John Hamilton, James M. Skiff; Ward Four, N. A. Leonard, John W. Bliss, Alfred Rowe; Ward Five, William Higley, Otis A. Seamans, A. W. Allen; Ward Six, Aaron C. Barton; Ward Seven, Henry Reynolds; Ward Eight, H. E. Moseley.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Horace C. Lee.

CITY OFFICERS FOR 1862.

MAYOR—STEPHEN C. BEMIS.

ALDERMEN—Ward One, Henry Gray; Ward Two, E. W. Bond; Ward Three, H. N. Case; Ward Four, T. W. Wason; Ward Five, Horace Kibbe; Ward Six, Horace Smith; Ward Seven, William Smith; Ward Eight, H. S. Evans.

CLERK—S. B. Spooner, Jr.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, Horace J. Chapin, L. O. Hanson, L. J. Powers; Ward Two, Sylvester Day, Tim Henry, Eli H. Patch; Ward Three, James M. Skiff, J. E. Taylor, A. F. Jennings; Ward Four, N. A. Leonard, Alfred Rowe, T. M. Walker; Ward Five, P. V. B. Havens, George K. Jacobs, George K. Charter; Ward Six, Aaron C. Barton; Ward Seven, Ezekiel Keith; Ward Eight, H. E. Moseley.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Samuel B. Spooner (resigned September 30), A. T. Folsom.

CITY OFFICERS FOR 1863.

MAYOR—HENRY ALEXANDER, JR.

ALDERMEN—Ward One, Justin M. Cooley; Ward Two, William Patton; Ward Three, William K. Baker; Ward Four, Daniel L. Harris; Ward Five, William Bodurtha; Ward Six, Horace Smith; Ward Seven, Virgil Perkins; Ward Eight, Andrew J. Plumer.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, N. W. Talcott, George S. Haskell, Luther Clark; Ward Two, O. H. Greenleaf, G. R. Townsley, John West; Ward Three, Aaron G. Lord, James M. Skiff, Francis S. Graves; Ward Four, N. A. Leonard, A. L. Soule, Henry S. Lee; Ward Five, Cheney Bigelow, George K. Charter (resigned), Charles Phelps, Orlando Chapin (resigned), William Collins; Ward Six, J. G. Chase; Ward Seven, C. P. L. Warner; Ward Eight, Hiram Warner.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1864.

MAYOR—HENRY ALEXANDER, JR.

ALDERMEN—Ward One, Norman W. Talcott; Ward Two, William Patton; Ward Three, Albert D. Briggs; Ward Four, Frederick H. Harris; Ward Five, Charles Barrows; Ward Six, Warren H. Wilkinson; Ward Seven, Virgil Perkins; Ward Eight, Harvey E. Moseley.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, N. A. Leonard; Ward One, Henry S. Hyde, John Mulligan, Charles H. Allen; Ward Two, O. H. Greenleaf, G. R. Townsley, J. F. Tannatt; Ward Three, Charles A. Winchester, W. H. Smith, A. N. Merrick; Ward Four, N. A. Leonard, A. L. Soule, Henry S. Lee; Ward Five, Charles Phelps, William Collins, S. W. Porter; Ward Six, L. H. Taylor; Ward Seven, Peter Valentine; Ward Eight, George Foster.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1865.

MAYOR—ALBERT D. BRIGGS.

ALDERMEN—Ward One, Henry S. Hyde; Ward Two, George R. Townsley; Ward Three, Otis Childs; Ward Four, Frederick H. Harris; Ward Five, Charles Barrows; Ward Six, Warren H. Wilkinson; Ward Seven, Virgil Perkins; Ward Eight, Andrew J. Plumer.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, John Mulligan, W. H. Allis, H. S. Noyes; Ward Two, Gideon Wells, John Olmsted, J. F. Tannatt; Ward Three, William H. Smith, J. F. Tapley, H. N. Tinkham; Ward Four, N. A. Leonard, Henry S. Lee, S. J. Hall; Ward Five, Charles Phelps, S. W. Porter, J. Q. A. Sexton; Ward Six, Gustavus D. Tapley; Ward Seven, Rawson Hathaway; Ward Eight, George Foster.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1866.

MAYOR—ALBERT D. BRIGGS.

ALDERMEN—Ward One, William Pynchon; Ward Two, D. H. Brigham; Ward Three, Tim Henry; Ward Four, F. H. Harris; Ward Five, G. W. Harrison; Ward Six, W. H. Wilkinson; Ward Seven, John G. Taylor (died), Rawson Hathaway; Ward Eight, John Severson.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, William L. Smith; Ward One, J. H. Demond, Warren Emerson, J. C. McIntosh; Ward Two, Gideon Wells, H. M. Morehouse, George Dwight, Jr.; Ward Three, H. N. Tinkham, William H. Smith, Joseph H. Damon; Ward Four, D. B. Wesson, William L. Smith, W. S. Marsh; Ward Five, Charles Phelps, S. W. Porter, Charles Chapman; Ward Six, Gustavus D. Tapley; Ward Seven, John M. Meggett; Ward Eight, Samuel Mills.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1867.

MAYOR—ALBERT D. BRIGGS.

ALDERMEN—Ward One, John Mulligan; Ward Two, Tim Henry; Ward Three, H. N. Tinkham; Ward Four, F. H. Harris; Ward Five, Samuel W. Porter; Ward Six, Amos Call; Ward Seven, Rawson Hathaway; Ward Eight, John Severson.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, William L. Smith; Ward One, J. C. McIntosh, Warren Emerson, J. H. Demond; Ward Two, H. M. Morehouse, C. S. Hurlbut, L. A. Tifft; Ward Three, Charles Marsh, H. K. W. Dickinson, P. S. Bailey; Ward Four, W. L. Smith, W. S. Marsh, L. J. Powers; Ward Five, Charles Chapman, A. H. Clark, J. S. Brown; Ward Six, Charles A. Call; Ward Seven, E. W. Clark; Ward Eight, Samuel Mills.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1868.

MAYOR—CHARLES A. WINCHESTER.

ALDERMEN—Ward One, John Mulligan; Ward Two, Tim Henry; Ward Three, H. N. Tinkham; Ward Four, W. S. Marsh; Ward Five, Samuel W. Porter; Ward Six, Amos Call; Ward Seven, E. W. Clark; Ward Eight, Milo Chapin.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, Warren Emerson, Josiah Bumstead, Roswell Lee; Ward Two, O. H. Greenleaf, Charles R. Ladd, Lewis A. Tifft; Ward Three, E. H. Patch, A. J. McIntosh, William H. Smith; Ward Four, Henry S. Lee, E. G. Norton, M. A. Clyde; Ward Five, Cyrus E. Buckland, Alden Warner, William R. Purple; Ward Six, George E. Howard; Ward Seven, Charles Gage; Ward Eight, George Swetland.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1869.

MAYOR—CHARLES A. WINCHESTER.

ALDERMEN—Ward One, J. M. Cooley; Ward Two, George Dwight; Ward Three, William H. Smith; Ward Four, W. S. Marsh; Ward Five, Joseph M. Hall; Ward Six, George E. Howard; Ward Seven, Charles Gage; Ward Eight, Charles J. Goodwin.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, George M. Atwater, Josiah Bumstead, John Olmsted; Ward Two, Charles R. Ladd, O. H. Greenleaf, C. C. Smith; Ward Three, A. J. McIntosh, E. H. Patch, J. H. Appleton; Ward Four, Henry S. Lee, E. G. Norton, L. J. Powers; Ward Five, Alden Warner, E. B. Haskell, W. P. Taylor; Ward Six, I. P. Dickinson; Ward Seven, William H. Pinney; Ward Eight, George Swetland.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1870.

MAYOR—WILLIAM L. SMITH.

ALDERMEN—Ward One, J. A. Rumrill; Ward Two, Eliphalet Trask; Ward Three, Dr. John Hooker; Ward Four, Willis Phelps; Ward Five, Joseph M. Hall; Ward Six, I. P. Dickinson; Ward Seven, William H. Pinney; Ward Eight, George Foster.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, Albert Holt, A. D. Day, C. B. Holbrook; Ward Two, George Dwight, Jr., James S. Bourke, David Legro; Ward Three, James E. McIntire, George W. Tapley, George S. Lewis; Ward Four, Henry S. Lee, Gurdon Bill, S. R. Phillips; Ward Five, Charles Phelps, William B. Miller, T. B. Wilson; Ward Six, George E. Howard; Ward Seven, John A. Hall; Ward Eight, Alfred S. Packard.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1871.

MAYOR—WILLIAM L. SMITH.

ALDERMEN—Ward One, Josiah Bumstead; Ward Two, Charles R. Ladd; Ward Three, Lawson Sibley; Ward Four, James M. Thompson; Ward Five, Richard F. Hawkins; Ward Six, Isaac P. Dickinson; Ward Seven, John A. Hall; Ward Eight, Noyes Barstow.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, Albert Holt, P. W. Brewster, F. J. Donahue; Ward Two, Milton Bradley, Tilly Haynes, R. Warren; Ward Three, B. C. English, S. B. Spooner, N. C. Newell; Ward Four, Henry S. Lee, Henry M. Phillips, E. A. Perkins; Ward Five, T. B. Wilson, J. C. Perry, E. B. Maynard; Ward Six, George E. Howard; Ward Seven, J. W. Lull; Ward Eight, George Swetland.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1872.

MAYOR—SAMUEL B. SPOONER.

ALDERMEN—Ward Two, Charles R. Ladd; Ward Three, William H. Smith; Ward Four, Emerson Wight; Ward Five, Joseph M. Hall, R. F. Hawkins; Ward Six, George E. Howard; Ward Seven, William H. Pinney; Ward Eight, Noyes Barstow.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, M. P. Knowlton; Ward One, F. J. Donahue, L. H. Powers, N. W. Fisk; Ward Two, O. H. Greenleaf, George W. Ray, Henry F. Trask; Ward Three, N. C. Newell, Samuel Palmer, George M. Smith; Ward Four, E. A. Perkins, H. M. Phillips, V. N. Taylor; Ward Five, M. P. Knowlton, E. B. Maynard, P. H. M. Brooks; Ward Six, E. A. Newell; Ward Seven, J. W. Lull; Ward Eight, W. L. Converse.

CLERK—Lucius E. Ladd.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1873.

MAYOR—SAMUEL B. SPOONER.

ALDERMEN—Ward One, H. S. Hyde; Ward Two, George W. Ray; Ward Three, E. H. Patch; Ward Four, Emerson Wight; Ward Five, R. F. Hawkins; Ward Six, George E. Howard; Ward Seven, L. A. Tifft; Ward Eight, Noyes Barstow.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, M. P. Knowlton; Ward One, Florence J. Donahue, Noyes W. Fisk, Albert Holt; Ward Two, O. H. Greenleaf, H. F. Trask, S. C. Warriner; Ward Three, Joseph K. Newell, Charles M. Lee, Charles M. King; Ward Four, Varnum N. Taylor, E. A. Perkins, H. M. Phillips; Ward Five, M. P. Knowlton, J. D. McKnight, W. G. Chamberlain; Ward Six, E. A. Newell; Ward Seven, B. F. Farrar; Ward Eight, John Warriner.

CLERK—John A. Hall.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1874.

MAYOR—JOHN M. STEBBINS.

ALDERMEN—Ward One, Albert Holt; Ward Two, Hugh Donnelly; Ward Three, A. J. McIntosh; Ward Four, L. J. Powers; Ward Five, Albert W. Allen; Ward Six, I. P. Dickinson; Ward Seven, J. W. Lull; Ward Eight, Henry C. Fuller.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, T. B. Wilson; Ward One, D. J. Curtis, Horace Wheeler, James A. Byrnes; Ward Two, L. B. Lillie, M. L. Tourtellotte, P. J. Ryan; Ward Three, B. S. Haskins, Charles A. King, August Sheppert; Ward Four, J. H. Appleton, Homer Foot, Jr., D. J. Marsh; Ward Five, W. G. Chamberlain, T. B. Wilson, Benjamin Hannis; Ward Six, Daniel Schoonmaker; Ward Seven, E. W. Ladd; Ward Eight, John Warriner.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1875.

MAYOR—EMERSON WIGHT.

ALDERMEN—Ward One, Hinsdale Smith; Ward Two, D. H. Brigham; Ward Three, F. H. Fuller; Ward Four, L. J. Powers; Ward Five, W. G. Chamberlain; Ward Six, Amos Call; Ward Seven, Rawson Hathaway; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Henry S. Lee; Ward One, Horace Wheeler, James A. Byrnes, N. W. Fisk; Ward Two, S. E. Seymour, H F. Trask, M. L. Tourtellotte; Ward Three, J. K. Newell, A. J. Plumer, J. K. Winter; Ward Four, Henry S. Lee, D. L. Harris, J. S. Carr; Ward Five, B. S. Haskins, Benjamin Hannis, E. S. Stacy; Ward Six, Daniel Schoonmaker; Ward Seven, E. P. Cook; Ward Eight, D. P. Woolson.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1876.

MAYOR—EMERSON WIGHT.

ALDERMEN—Ward One, N. W. Talcott; Ward Two, George Dwight; Ward Three, J. K. Newell; Ward Four, Henry S. Lee; Ward Five, N. I. Hawley; Ward Six, D. L. Swan; Ward Seven, Rawson Hathaway; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, H. F. Trask; Ward One, John Mulligan, J. M. Cooley, J. J. Moore; Ward Two, Milton Bradley, H. F. Trask, M. L. Tourtellotte; Ward Three, H. N. Tinkham, J. F. Tapley, Elijah Nichols; Ward Four, W. S. Shurtleff, D. L. Harris, J. S. Carr; Ward Five, H. W. Phelps, Edwin McElwain, E. S. Stacy; Ward Six, R. R. McGregor; Ward Seven, Larkin Newell; Ward Eight, Samuel F. Smith.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1877.

MAYOR—EMERSON WIGHT.

ALDERMEN—Ward One, John Olmsted; Ward Two, George Dwight; Ward Three, J. F. Tapley; Ward Four, Henry S. Lee; Ward Five, N. I. Hawley (resigned), Benj. Hannis; Ward Six, D. L. Swan; Ward Seven, W. H. Pinney; Ward Eight, H. K. Wight.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, H. F. Trask; Ward One, John Mulligan, N. W. Fisk, L. H. Powers; Ward Two, H. F. Trask, M. L. Tourtellotte, George E. Frink; Ward Three, H. N. Tinkham, Elijah Nichols, George B. Smith; Ward Four, Daniel L. Harris, William S. Shurtleff, J. K. Newell; Ward Five, Edwin McElwain, John A. Hall, A. J. Wright; Ward Six, H. C. Puffer; Ward Seven, E. W. Ladd; Ward Eight, Milo Chapin.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1878.

MAYOR—EMERSON WIGHT.

ALDERMEN—Ward One, John Olmsted; Ward Two, George Dwight; Ward Three, J. F. Tapley; Ward Four, Henry S. Lee; Ward Five, John A. Hall; Ward Six, D. L. Swan; Ward Seven, W. H. Pinney; Ward Eight, H. K. Wight.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, A. J. Wright; Ward One, John Mulligan, L. H. Powers, E. Belding; Ward Two, Dr. H. G. Stickney, Dr. A. R. Rice, E. M. Bartlett; Ward Three, Elijah Nichols, George B. Smith, J. R. Smith; Ward Four, W. S. Shurtleff, J. K. Newell, H. A. Gould; Ward Five, A. J. Wright, N. W. Howard, S. L. Hodgdon; Ward Six, George R. Dickinson; Ward Seven, Edwin W. Ladd; Ward Eight, F. M. Bardwell.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1879.

MAYOR—LEWIS J. POWERS.

ALDERMEN—Ward One, John Olmsted; Ward Two, George Dwight; Ward Three, J. F. Tapley; Ward Four, George W. Tapley; Ward Five, Benjamin Hannis; Ward Six, George R. Dickinson; Ward Seven, E. W. Ladd; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, J. R. Smith; Ward One, John Mulligan, E. Belding, J. W. Baldwin; Ward Two, E. H. Phelps, Horace Jacobs, F. A. Judd; Ward Three, J. R. Smith, Elijah Nichols, Frank E. Winter; Ward Four, Henry A. Gould, George B. Holbrook, C. J. Sanderson; Ward Five, N. W. Howard, S. L. Hodgdon, M. J. Chamberlain; Ward Six, E. M. Lombard; Ward Seven, Charles Taylor; Ward Eight, F. M. Bardwell.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1880.

MAYOR—LEWIS J. POWERS.

ALDERMEN—Ward One, John Olmsted; Ward Two, S. C. Warriner; Ward Three, J. F. Tapley; Ward Four, George W. Tapley; Ward Five, Benjamin Hannis; Ward Six, George R. Dickinson; Ward Seven, E. W. Ladd; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Elijah Belding; Ward One, E. Belding, Ethan C. Robinson, Harlan P. Stone; Ward Two, Fred A. Judd, E. H. Young, E. M. Bartlett; Ward Three, Elijah Nichols, Frank E. Winter, Emory Meekins; Ward Four, George B. Holbrook, Charles J. Sanderson, William H. Haile; Ward Five, Nathaniel W. Howard, Sewall L. Hodgdon, James D. Gill; Ward Six, Edward M. Lombard; Ward Seven, Charles Taylor; Ward Eight, Frank M. Bardwell.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1881.

MAYOR—WILLIAM H. HAILE.

ALDERMEN—Ward One, Elijah Belding; Ward Two, Stephen E. Seymour; Ward Three, Elijah Nichols; Ward Four, Edward P. Chapin; Ward Five, Oscar D. Adams; Ward Six, Edward M. Lombard; Ward Seven, George Nye; Ward Eight, H. K. Wight.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Charles J. Sanderson; Ward One, Harlan P. Stone, Hoyt E. Howard, Henry J. Beebe; Ward Two, Fred A. Judd, Edwin M. Bartlett, John Lobsitz; Ward Three, George P. Stebbins, Jacob C. Lutz, Simpson Clark; Ward Four, Charles J. Sanderson, William B. Walker, Edmund P. Kendrick; Ward Five, James D. Gill, Henry Dana, James F. Brierly; Ward Six, Albert E. Foth; Ward Seven, William C. Bemis; Ward Eight, George Foster.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom

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CITY OFFICERS FOR 1882.

MAYOR—EDWIN W. LADD.

ALDERMEN—Ward One, Henry D. Carroll; Ward Two, Stephen E. Seymour; Ward Three, Elijah Nichols; Ward Four, Edward P. Chapin; Ward Five, Oscar D. Adams; Ward Six, Edward M. Lombard; Ward Seven, George Nye; Ward Eight, Davenport L. Fuller.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, Edmund P. Kendrick; Ward One, Harlan P. Stone, Henry J. Beebe, Ethan C. Robinson; Ward Two, Fred A. Judd, Frank M. Bugbee, Frank E. Carpenter; Ward Three, Simpson Clark, Jacob C. Lutz, James D. Parsons; Ward Four, Edmund P. Kendrick, James C. Alden, Edward C. Rogers; Ward Five, Henry Dana, Charles E. Dodge, Charles Fuller; Ward Six, George McGregory; Ward Seven, John S. Sanderson; Ward Eight, Edward D. Chapman.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1883.

MAYOR—HENRY M. PHILLIPS.

ALDERMEN—Ward One, Harlan P. Stone; Ward Two, Fred A. Judd; Ward Four, James Kirkham; Ward Four, James C. Alden; Ward Five, James D. Gill; Ward Six, Charles A. Call; Ward Seven, George Nye; Ward Seven, John S. Sanderson.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, E. P. Kendrick; Ward One, Charles McKay, J. F. Callanan, John L. Knight; Ward Two, Frank E. Carpenter, Frank M. Bugbee, James A. Bill, Jr.; Ward Three, Jacob C. Lutz, Simpson Clark, W. F. Cook; Ward Four, Edmund P. Kendrick, Edward C. Rogers, Thomas D. Lyon; Ward Five, George H. Wells, James Kimball, Whiteman T. Steere; Ward Six, Oscar S. Greenleaf; Ward Seven, George W. Hall; Ward Eight, John Rivers.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1884.

MAYOR—HENRY M. PHILLIPS.

ALDERMEN—Ward Two, Andrew Y. Beach; Ward Three, Jacob C. Lutz; Ward Four, George W. Tapley; Ward Five, Henry M. Brewster; Ward Six, Charles A. Call; Ward Seven, George Nye, John S. Sanderson; Ward Eight, Davenport L. Fuller.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Edward C. Rogers; Ward One, Henry L. Whitcomb, John L. Knight, Patrick C. O'Connor; Ward Two, Hosea C. Lombard, James A. Bill, Jr., James N. Dodge; Ward Three, Simpson Clark, George F. Clark, James S. Adams; Ward Four, Edward C. Rogers, Charles L. Long, Thomas D. Lyon; Ward Five, George H. Wells, James Kimball, J. H. Hendrick; Ward Six, Oscar S. Greenleaf; Ward Seven, George W. Hall; Ward Eight, John Rivers.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1885.

MAYOR—HENRY M. PHILLIPS.

ALDERMEN—Ward One, John L. Knight; Ward Two, Andrew Y. Beach; Ward Three, Jacob C. Lutz; Ward Four, Daniel P. Crocker; Ward Five, Charles Taylor; Ward Six, Charles A. Call; Ward Seven, John S. Sanderson; Ward Eight, George W. Miller.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Charles L. Long; Ward One, George E. Frink, James F. Bidwell, Henry M. Castle; Ward Two, James A. Bill, Jr., Hosea C. Lombard, Edwin F. Lyford; Ward Three, Edgar C. Whittemore, Richard D. Whitney, John H. Clune; Ward Four, Henry H. Bowman, Charles L. Long, Alfred N. Mayo; Ward Five, George H. Wells, Joel H. Hendrick, James Kimball; Ward Six, Oscar S. Greenleaf; Ward Seven, Richard W. Pinney; Ward Eight, Horatio E. D. Green.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1886.

MAYOR—EDWIN D. METCALF.

ALDERMEN—President, Andrew Y. Beach; Ward One, James F. Bidwell; Ward Two, Andrew Y. Beach; Ward Three, George B. Holbrook; Ward Four, George W. Tapley; Ward Five, Joel H. Hendrick; Ward Six, Walter H. Wesson; Ward Seven, Richard W. Pinney; Ward Eight, George W. Miller.

CLERK—A. T. Folsom.

COMMON COUNCILMEN—President, Charles L. Long; Ward One, George E. Frink, Charles A. Fisk, R. Hale Smith; Ward Two, James A. Bill, Jr., Edwin F. Lyford, Samuel J. Whyte; Ward Three, John H. Clune, Claudius C. Margerum, William F. Callender; Ward Four, Charles L. Long, Henry H. Bowman, Alfred N. Mayo; Ward Five, Thomas S. Stewart, Edward S. Bradford, Marcus M. Kendall; Ward Six, William L. Dickinson; Ward Seven, George W. Hall; Ward Eight, Horatio E. D. Green.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

CITY OFFICERS FOR 1887.

MAYOR—E. B. MAYNARD.

ALDERMEN—President, James F. Bidwell; Ward One, James F. Bidwell; Ward Two, Frank M. Bugbee; Ward Three, William F. Callender; Ward Four, William H. Wright; Ward Five, Sherman D. Porter; Ward Six, William L. Dickinson; Ward Seven, Richard W. Pinney; Ward Eight, John Rivers.

CLERK—Albert T. Folsom.

COMMON COUNCILMEN—President, Henry H. Bowman; Ward One, Frederick H. Stebbins, John Dollan, Frank C. Leonard; Ward Two, Frank S. Crane, James A. Bill, Jr., Newrie D. Winter; Ward Three, Claudius C. Margerum, James E. Dunleavy, Howard N. Newell; Ward Four, Henry H. Bowman, William W. More, Charles E. Brown; Ward Five, Edward S. Bradford, Marcus M. Kendall, William C. Newell; Ward Six, Edward J. Flannery; Ward Seven, Landomer E. Pease; Ward Eight, James H. Morley.

CLERK—E. A. Newell.

CITY CLERK AND TREASURER—Albert T. Folsom.

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CITY OFFICERS FOR 1888.

MAYOR—E. B. MAYNARD.

ALDERMEN—President, Frank M. Bugbee; Ward One, John C. McIntosh; Ward Two, Frank M. Bugbee; Ward Three, Lawson Sibley; Ward Four, William H. Wright; Ward Five, Sherman D. Porter; Ward Six, William L. Dickinson; Ward Seven, Richard W. Pinney; Ward Eight, John Rivers.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Newrie D. Winter; Ward One, Frederick H. Stebbins, Frank C. Leonard, George W. Turner; Ward Two, Newrie D. Winter, Charles C. Parkhurst, Edward F. Tower; Ward Three, James E. Dunleavy, Frederick S. Newman, Leonard Schadt; Ward Four, William W. More, Charles E. Brown, George Leonard; Ward Five, Edward S. Bradford, Marcus M. Kendall, James W. Anderson; Ward Six, Edward J. Flannery; Ward Seven, Charles E. Ladd; Ward Eight, E. A. Grise.

CLERK—Tom Fitzgibbon.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

CITY OFFICERS FOR 1889.

MAYOR—EDWARD S. BRADFORD.

ALDERMEN—President, John C. McIntosh; Ward One, John C. McIntosh; Ward Two, Charles C. Parkhurst; Ward Three, Herbert C. Puffer; Ward Four, John A. Murphy; Ward Five, John McFethries; Ward Six, Henry S. Dickinson; Ward Seven, George W. Hall; Ward Eight, Orson Moulton.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, George Leonard; Ward One, George W. Turner, Leroy Z. Cutler, William F. Ray; Ward Two, Waldo R. Forrester, Francke W. Dickinson, Dr. George E. Foster; Ward Three, Leonard Schadt, Jacob G. Lutz, John P. Casman; Ward Four, William W. More, George Leonard, Charles Van Vlack; Ward Five, Milan W. Bull, Ruel R. Nickerson, Thomas H. Benton; Ward Six, Cornelius W. Phillips; Ward Seven, Charles E. Ladd; Ward Eight, Loren W. King.

CLERK—Andrew O. McGarrett.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

CITY OFFICERS FOR 1890.

MAYOR—EDWARD S. BRADFORD.

ALDERMEN—President, Henry S. Dickinson; Ward One, George W. Turner; Ward Two, Charles C. Parkhurst; Ward Three, George B. Holbrook; Ward Four, John A. Murphy; Ward Five, Edmund P. Kendrick; Ward Six, Henry S. Dickinson; Ward Seven, George W. Hall; Ward Eight, Orrin E. Tilley.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, George Leonard; Ward One, Leroy Z. Cutler, William F. Ray, Louis C. Hyde, Ward Two, Francke W. Dickinson, George D Fisk, John B. King; Ward Three, John P. Casman, Arthur A. Couch, George J. Seuss; Ward Four, George Leonard, Charles Van Vlack, Frederick H. Gillett; Ward Five, Milan W. Bull, George H. Clark, George H. Kemater; Ward Six, Cornelius W. Phillips; Ward Seven, Benjamin C. Harvey; Ward Eight, Charles E. Jennings.

CLERK—Andrew O. McGarrett.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

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CITY OFFICERS FOR 1891.

MAYOR—EDWARD S. BRADFORD.

ALDERMEN—President, John A. Murphy; Ward One, Louis C. Hyde; Ward Two, Charles C. Parkhurst; Ward Three, George B. Holbrook; Ward Four, John A. Murphy; Ward Five, Edward H. Lathrop; Ward Six, Frederick Harris; Ward Seven, Benjamin C. Harvey; Ward Eight, Orrin E. Tilley.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Francke W. Dickinson; Ward One, Henry E. Marsh, John McDonald, Charles H. Mulligan; Ward Two, Francke W. Dickinson, John B. King, Dwight O. Gilmore; Ward Three, George J. Seuss, Charles W. Turk, Jeremiah F. Mahoney; Ward Four, Charles Van Vlack, W. F. Adams, James D. Norton; Ward Five, Milan W. Bull, George H. Clark, George H. Kemater; Ward Six, George M. Stebbins; Ward Seven, Thomas A. Holland; Ward Eight, Charles E. Jennings.

CLERK—Andrew O. McGarrett.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

CITY OFFICERS FOR 1892.

MAYOR—LAWSON SIBLEY.

ALDERMEN—President, Frederick Harris; Ward One, Louis C. Hyde; Ward Two, Frank E. Carpenter; Ward Three, Claudius C. Margerum; Ward Four, Charles M. Mather; Ward Five, Samuel D. Sherwood; Ward Six, Frederick Harris; Ward Seven, Benjamin C. Harvey; Ward Eight, Leonard B. Richardson.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, James D. Norton; Ward One, William P. Hayes, Charles H. Mulligan, Henry W. Sexton; Ward Two, Edwin A. Carter, Dwight O. Gilmore, James J. Sullivan; Ward Three, George J. Seuss, Jeremiah F. Mahoney, John Sharrocks; Ward Four, W. F. Adams, James D. Norton, Charles E. Stickney; Ward Five, William M. Gray, William A. Harris, Stillman L. Tuttle; Ward Six, George M. Stebbins; Ward Seven, Thomas A. Holland; Ward Eight, Henry A. Braman.

CLERK—Andrew O. McGarrett. (resigned)—Wm. E. Gilbert.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

CITY OFFICERS FOR 1893.

MAYOR—EDMUND P. KENDRICK.

ALDERMEN—President, George Nye; Ward One, Olin H. Smith; Ward Two, Dwight O. Gilmore; Ward Three, Claudius C. Margerum; Ward Four, Henry H. Bowman; Ward Five, George Nye; Ward Six, Nathan D. Bill; Ward Seven, Benjamin C. Harvey; Ward Eight, Leonard B. Richardson.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, James D. Norton; Ward One, William P. Hayes, Charles H. Mulligan, Winford N. Caldwell; Ward Two, Walter G. Morse, Charles W. Perkins, George B. Rathbun; Ward Three, Harry P. Elsey, George F. Sessions, Charles Workheiser; Ward Four, W. F. Adams, James D. Norton, Charles E. Stickney; Ward Five, William A. Harris, Edwin S. Field, Frederick B. Miller; Ward Six, Eugene Young; Ward Seven, William H. Gage; Ward Eight, Merrill E. Streeter.

CLERK—William E. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—E. T. Tifft.

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CITY OFFICERS FOR 1894.

MAYOR—EDMUND P. KENDRICK.

ALDERMEN—President, Henry H. Bowman; Ward One, Olin H. Smith; Ward Two, Dwight O. Gilmore; Ward Three, Gustave Remkus; Ward Four, Henry H. Bowman; Ward Five, George A. Russell; Ward Six, Claudius C. Margerum; Ward Seven, Daniel W. Ware; Ward Eight, Merrill E. Streeter.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, George F. Sessions; Ward One, William C. Hayes, Charles L. Burr, George F. Fuller; Ward Two, Maurice P. Cavanaugh, Charles W. Perkins, Frank H. Elwell; Ward Three, Harry P. Elsey, George F. Sessions, Robert A. Grant; Ward Four, Howard A. Gibbs, Robert A. Knight, Paul R. Hawkins; Ward Five, Edwin S. Field, Frederick B. Miller, Fred C. Wright; Ward Six, Edward C. Hamilton; Ward Seven. William S. Bemis; Ward Eight, Philip C. Sullivan.

CLERK—William E. Gilbert.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

CITY OFFICERS FOR 1895.

MAYOR—CHARLES L. LONG.

ALDERMEN—President, George A. Russell; Ward One, George F. Fuller; Ward Two, Albert E. Foth; Ward Three, Gustave Remkus; Ward Four, Henry L. Gaylord; Ward Five, George A. Russell; Ward Six, Walter P. Goodenough; Ward Seven, Daniel W. Ware; Ward Eight, Merrill E. Streeter.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Robert A. Knight; Ward One, Charles L. Burr, Lewis D. Robinson, Willard F. Tripp; Ward Two, Maurice P. Cavanaugh, Frank H. Elwell, Charles D. Rathbun; Ward Three, Adin W. Bangs, Robert A Grant, George W. D. Upton; Ward Four, Howard A Gibbs, Paul R. Hawkins, Robert A. Knight; Ward Five, Albert P. Casey, Augustus A. Howard, Frederick B. Miller; Ward Six, Edward C. Hamilton; Ward seven, Charles E. Ladd; Ward Eight, John R. Reed.

CLERK—William E. Gilbert.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

CITY OFFICERS FOR 1896.

MAYOR—NEWRIE D. WINTER.

ALDERMEN—President, Henry S. Dickinson; Ward One, Charles L. Burr; Ward Two, Dwight O. Gilmore; Ward Three, George J. Sousa; Ward Four, Henry S. Dickinson; Ward Five, Charles H. Parsons; Ward Six, Charles Rogers; Ward Seven, Charles E. Ladd; Ward Eight, Octave A. La Riviere.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Maurice P. Cavanaugh; Ward One, Frank H. Bills, William J. McCann, Willard F. Tripp; Ward Two, Maurice P. Cavanaugh, Harry C. Collins, Charles T. Winchester; Ward Three, Henry D. Marsh, Frank D. Quilty, George W. D. Upton; Ward Four, Ralph W. Ellis, Zera W. Smith, Fred H. Sturtevant; Ward Five, Frank W. Barker, Augustus A. Howard, Edward R. Lee; Ward Six, Frank D. Kemp; Ward Seven, William W. Bartlett; Ward Eight, Charles O. Churchill.

CLERK—William E. Gilbert.

CITY CLERK—E. A. Newell.

CITY TREASURER—E. T. Tifft.

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CITY OFFICERS FOR 1897.

MAYOR—HENRY S. DICKINSON.

ALDERMEN—President, Dwight O. Gilmore; Ward One, Willard F. Tripp; Ward Two, Charles H. Mulligan; Ward Three, Dwight O. Gilmore; Ward Four, Ralph W. Ellis; Ward Five, Charles C. Lewis; Ward Six, Edward C. Hamilton; Ward Seven, Charles E. Brown; Ward Eight, Homer D. Packard.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Frank W. Barker; Ward One, Orville A. Dodge, Lewis D. Robinson; Ward Two, Luke J. Coogan, Henry D. Shaw, Harry J. Vesper; Ward Three, Charles H. Dunham, Frank H. Elwell; Ward Four, Lewis F. Carr, Charles E. Newell; Ward Five, Frank W. Barker, Stanford L. Haynes; Ward Six, Fred A. Bearse, Dennis Casey, Jr.; Ward Seven, George A. Bacon, William W. Bartlett; Ward Eight, Charles O. Churchill, Alexander C. Methven, Fordis C. Parker.

CLERK—William E. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1898.

MAYOR—HENRY S. DICKINSON.

ALDERMEN—President, Dwight O. Gilmore; Ward One, Lewis D. Robinson; Ward Two, Charles H. Mulligan; Ward Three, Dwight O. Gilmore; Ward Four, Ralph W. Ellis; Ward Five, Charles C. Lewis; Ward Six, Edward C. Hamilton; Ward Seven, Charles E. Brown; Ward Eight, Homer D. Packard.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Fordis C. Parker; Ward One, Orville A. Dodge, Franklin A. Latimer, Jr.; Ward Two, Luke J. Coogan, Matthew R. Mansfield, William A. Strange; Ward Three, Edward T. Davis, Harry H. Parkhurst; Ward Four, Lewis F. Carr, Charles E. Newell; Ward Five, Fordis C. Parker, Stanford L. Haynes; Ward Six, Fred A. Bearse, Samuel M. Jones; Ward Seven, George A. Bacon, Seth J. Buckland; Ward Eight, Albert E. W. Drake, Alexander C. Methven, William F. Mundell.

CLERK—William E. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1899.

MAYOR—DWIGHT O. GILMORE.

ALDERMEN—President, Charles H. Mulligan; Ward One, Franklin A. Latimer, Jr.; Ward Two, Charles H. Mulligan; Ward Three, Frank H. Elwell; Ward Four, Edwin A. Blodgett; Ward Five, Fordis C. Parker; Ward Six, Fred. A. Bearse; Ward Seven, Julius F. Carman; Ward Eight, Alexander C. Methven.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Fred O. Clapp; Ward One, Fred O. Clapp, Edwin B. Woodin; Ward Two, Luke J. Coogan, Patrick J. McCarty, Patrick J. Mitchell; Ward Three, Gottlieb Baer, George W. D. Upton; Ward Four, Lincoln C. Haynes, William W. Tapley; Ward Five, Theodore F. Dwight, Charles A. Wright; Ward Six, Frederick S. Ladd, George Smith; Ward Seven, Albert G. Bennett, Jr., Seth J. Buckland; Ward Eight, Albert E. W. Drake, William F. Mundell, Woodward E. Murkland.

CLERK—William E. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

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CITY OFFICERS FOR 1900.

MAYOR—WILLIAM P. HAYES.

ALDERMEN—President, Edwin A. Blodgett; Ward One, Fred O. Clapp; Ward Two, Henry W. Fitch; Ward Three, Frank H. Elwell; Ward Four, Edwin A. Blodgett; Ward Five, Fordis C. Parker; Ward Six, Fred A. Bearse; Ward Seven, Julius F. Carman; Ward Eight, Alexander C. Methven.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Albert G. Bennett, Jr.; Ward One, Clifford P. Kibbe, William E. Sanderson; Ward Two, Patrick J. Mitchell, James E. Dunn, John M. Sullivan; Ward Three, George W. D. Upton, Napoleon L. Byron; Ward Four, William W. Tapley, F. Winthrop Edwards; Ward Five, Theodore F. Dwight, George Nye, Jr.; Ward Six, George Smith, Eugene M. Tinkham; Ward Seven, Albert G. Bennett, Jr., William A. Newton; Ward Eight, William F. Mundell, Oliver E. Hines, Everett E. Stone.

CLERK—William E. Gilbert (resigned), H. S. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1901.

MAYOR—WILLIAM P. HAYES.

ALDERMEN—President, Fred O. Clapp; Ward One, Fred O. Clapp; Ward Two, Henry W. Fitch; Ward Three, Henry D. Marsh; Ward Four, William W. Tapley; Ward Five, Henry H. Bosworth; Ward Six, Frank D. Kemp; Ward Seven, Albert G. Bennett, Jr.; Ward Eight, Edward J. Murphy.

CLERK—E. A. Newell.

COMMON COUNCILMEN—President, Everett E. Stone; Ward One, Clifford P. Kibbe, William E. Sanderson; Ward Two, Patrick J. Mitchell, James E. Dunn, Patrick J. Delaney; Ward Three, George H. McClean, William W. Warren; Ward Four, F. Winthrop Edwards, Henry P. Norris; Ward 5, Calvin S. Whitcomb, George Nye, Jr.; Ward Six, John J. Hamilton, Eugene M. Tinkham; Ward Seven, Henry G. Chapin, William A. Newton; Ward 8, Oliver E. Hines, Everett E. Stone, William T. Webster.

CLERK—H. S. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1902.

MAYOR—RALPH W. ELLIS.

ALDERMEN—President, Fred O. Clapp; Ward One, Fred O. Clapp; Ward Two, Henry W. Fitch; Ward Three, Napoleon L. Byron; Ward Four, William W. Tapley; Ward Five, Henry H. Bosworth; Ward Six, Paul R. Hawkins; Ward Seven, Albert G. Bennett, Jr.; Ward Eight, Everett E. Stone.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, William E. Sanderson; Ward One, Clifford P. Kibbe, William E. Sanderson; Ward Two, Sylvester P. Callanan, Patrick J. Delaney, James E. Dunn; Ward Three, Charles F. Bogardus, George H. McClean; Ward Four, Henry P. Norris, Alfred F. H. Pillsbury; Ward Five, George Nye, Jr., Calvin S. Whitcomb; Ward Six, Joseph C. Allen, John J. Hamilton; Ward Seven, Henry G. Chapin, Edward O. Doten; Ward Eight, Henry S. Keyes, Charles S. Potter, William T. Webster.

CLERK—H. S. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

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CITY OFFICERS FOR 1903.

MAYOR—EVERETT E. STONE.

ALDERMEN—President, Napoleon L. Byron; Ward One, William E. Sanderson; Ward Two, Willis A. Ford; Ward Three, Napoleon L. Byron; Ward Four, Henry P. Norris; Ward Five, Francke W. Dickinson; Ward Six, Joseph C. Allen; Ward Seven, Oscar S. Greenleaf; Ward Eight, Oliver E. Hines.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, Henry G. Chapin; Ward One, William C. Bartlett, Wayland V. James; Ward Two, Patrick J. Delaney, Thomas J. Burke, William H. Grady; Ward Three, George V. Lovely, Samuel H. Trask; Ward Four, Alfred F. H. Pillsbury, Arthur H. Rogers; Ward Five, William A. Dodge, Fred L. Safford; Ward Six, Clinton Gowdy, Albert R. Green; Ward Seven, Albert W. Allen, Henry G. Chapin; Ward Eight, Henry S. Keyes, Charles S. Potter, Edward P. Blague.

CLERK—H. S. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1904.

MAYOR—EVERETT E. STONE.

ALDERMEN—President, Napoleon L. Byron; Ward One, William E. Sanderson; Ward Two, Willis A. Ford; Ward Three, Napoleon L. Byron; Ward Four, Henry P. Norris; Ward Five, Francke W. Dickinson; Ward Six, Frederick S. Ladd; Ward Seven, Oscar S. Greenleaf; Ward Eight, William R. Sessions.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, Henry G. Chapin; Ward One, William C. Bartlett, Henry N. Bowman; Ward Two, Thomas J. Burke, William H. Grady, William F. Houlihan; Ward Three, George H. Hadd, Samuel H. Trask; Ward Four, Alfred F. H. Pillsbury, Arthur H. Rogers; Ward Five, William A. Dodge, Fred L. Safford; Ward Six, Albert R. Green, Frank E. Stacy; Ward Seven, Albert W. Allen, Henry G. Chapin; Ward Eight, Henry S. Keyes, Charles S. Potter, Howard O. Buck.

CLERK—H. S. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1905.

MAYOR—FRANCKE W. DICKINSON.

ALDERMEN—President, William E. Sanderson; Ward One, William E. Sanderson; Ward Two, Willis A. Ford; Ward Three, William S. Warriner; Ward Four, Henry P. Norris; Ward Five, Joseph P. Falt; Ward Six, Frederick S. Ladd; Ward Seven, Albert W. Allen; Ward Eight, William R. Sessions.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, Charles S. Potter; Ward One, Charles Adams, Henry N. Bowman; Ward Two, William F. Houlihan, William H. Grady, Michael J. Scully; Ward Three, George H. Hadd, George H. Crouss; Ward Four, Alfred F. H. Pillsbury, Arthur H. Rogers; Ward Five, William A. Dodge, Winthrop I. Davis; Ward Six, Frank E. Stacy, Henry R. Morrissey; Ward Seven, Fred R. Brown, Edwin G. Remkus; Ward Eight, Charles S. Potter, Howard O. Buck, Ralph Waldo Wight.

CLERK—H. S Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

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CITY OFFICERS FOR 1906.

MAYOR—FRANCKE W. DICKINSON.

ALDERMEN—President, William E. Sanderson; Ward One, William E. Sanderson; Ward Two, Willis A. Ford; Ward Three, William S. Warriner; Ward Four, Arthur H. Rogers; Ward Five, Joseph P. Falt; Ward Six, Frederick S. Ladd; Ward Seven, Albert W. Allen; Ward Eight, Charles S. Potter.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, Ralph Waldo Wight; Ward One, Charles Adams, Henry N. Bowman; Ward Two, John J. Collins, William H. Grady, Michael J. Scully; Ward Three, George H. Hadd, George H. Crouss; Ward Four, Alfred F. H. Pillsbury, Arthur E. Corbin; Ward Five, William A. Dodge, Winthrop I. Davis; Ward Six, George D. Chamberlain, Henry R. Morrissey; Ward Seven, Fred R. Brown, John Lafayette Scott; Ward Eight, William Addison, Ralph Waldo Wight, Howard O. Buck (resigned).

CLERK—H. S. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1907.

MAYOR—WILLIAM E. SANDERSON.

ALDERMEN—President, Willis A. Ford; Ward One, Henry N. Bowman; Ward Two, Willis A. Ford; Ward Three, Geo. H. Crouss; Ward Four, Arthur H. Rogers; Ward Five, Alfred F. H. Pillsbury; Ward Six, Frederick S. Ladd; Ward Seven, Fred R. Brown; Ward Eight, Charles S. Potter.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, Ralph W. Wight; Ward One, Charles Adams, John Henry Curtiss; Ward Two, Geo. C. Connell, Michael J. Scully, John J. Collins; Ward Three, George H. Hadd, Albert A. Mathews; Ward Four, Edward P. Butts, Arthur E. Corbin; Ward Five, William A. Dodge, Winthrop I. Davis; Ward Six, Frank E. Stacy, George D. Chamberlain; Ward Seven, John L. Scott, Edward W. Maynard; Ward Eight, William Addison, Ralph W. Wight, George M. Howe.

CLERK—H. S. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1908.

MAYOR—WILLIAM E. SANDERSON.

ALDERMEN—President, Alfred F. H. Pillsbury; Ward One, Henry N. Bowman; Ward Two, Henry Lasker; Ward Three, Geo. H. Crouss, deceased—Nelson L. Elmer; Ward Four, Arthur H. Rogers; Ward Five, Alfred F. H. Pillsbury; Ward Six, George D. Chamberlain; Ward Seven, Fred R. Brown; Ward Eight, Ralph W. Wight.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, Frank E. Stacy; Ward One, Charles Adams, John Henry Curtiss; Ward Two, Michael J. Scully, John J. Collins, George C. Connell; Ward Three, George H. Hadd, Albert A. Mathews; Ward Four, Edward P. Butts, John A. Denison; Ward Five, Robert N. Ingersoll, J. Frank Drake; Ward Six, Frank E. Stacy, Harcourt Wesson Bull; Ward Seven, John L. Scott, Edward W. Maynard; Ward Eight, George M. Howe, Jay W. Nickels, John W. Superneaw.

CLERK—H. S. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

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CITY OFFICERS FOR 1909.

MAYOR—WILLIAM E. SANDERSON.

ALDERMEN—President, Henry N. Bowman; Ward One, Henry N. Bowman; Ward Two, Henry Lasker; Ward Three, Nelson L. Elmer; Ward Four, Arthur H. Rogers; Ward Five, William A. Dodge; Ward Six, George D. Chamberlain; Ward Seven, John L. Scott; Ward Eight, Ralph W. Wight.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, John A. Denison; Ward One, John Henry Curtiss, Joseph G. Merrick; Ward Two, John J. Collins, James A. Sullivan, John J. Walsh; Ward Three, George H. Hadd, Albert A. Mathews; Ward Four, John A. Denison, Everett E. Belding; Ward Five, Robert N. Ingersoll, J. Frank Drake; Ward Six, Frank E. Stacy, Harcourt Wesson Bull; Ward Seven, Julian R. Albee, Edward T. Broadhurst; Ward Eight, Charles M. Goodwin, John G. Maxfield, Jay W. Nickels.

CLERK—H. S. Gilbert.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1910.

MAYOR—EDWARD H. LATHROP.

ALDERMEN—President, Henry N. Bowman; Ward One, Henry N. Bowman; Ward Two, Henry Lasker; Ward Three, Nelson L. Elmer; Ward Four, John A. Denison; Ward Five, William A. Dodge; Ward Six, George D. Chamberlain; Ward Seven, John L. Scott; Ward Eight, Ralph W. Wight.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, J. Frank Drake; Ward One, Joseph G Merrick, Wilfred S. Armitage; Ward Two, James A. Sullivan, John J. Walsh, Jeremiah McCarthy; Ward Three, Albert A. Mathews, George W. Streeter; Ward Four, Everett E. Belding, George Marston Leonard; Ward Five, Robert N. Ingersoll, J. Frank Drake; Ward Six, Matthew H. Farrell, Patrick W. Russell; Ward Seven, Julian R. Albee, Edward T. Broadhurst; Ward Eight, Charles M. Goodwin, John G. Maxfield, Miller J. Meeker.

CLERK—H. S. Gilbert (resigned), George J. Clark.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

CITY OFFICERS FOR 1911.

MAYOR—EDWARD H. LATHROP.

ALDERMEN—President, Ralph W. Wight; Ward One, Edward S. Goldthwaite; Ward Two, Henry Lasker; Ward Three, H. Goodman Waters; Ward Four, John A. Denison; Ward Five, William A. Dodge; Ward Six, Frank E. Stacy; Ward Seven, Charles B. Hitchcock; Ward Eight, Ralph W. Wight.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, J. Frank Drake; Ward One, Wilfred S. Armitage, George S. Cook; Ward Two, John P. Cannon, William H. Grady, Jeremiah McCarthy; Ward Three, George W. Streeter, George W. D. Upton; Ward Four, Everett E. Belding, George Marston Leonard; Ward Five, Charles A. Allbe, J. Frank Drake; Ward Six, Matthew H. Farrell, Patrick W. Russell; Ward Seven, Julian R. Albee, Edward T. Broadhurst; Ward Eight, Charles M. Goodwin, John G. Maxfield, Miller J. Meeker.

CLERK—George J. Clark.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

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CITY OFFICERS FOR 1912.

MAYOR—EDWARD H. LATHROP.

ALDERMEN—President, John A. Denison; Ward One, Edward S. Goldthwaite; Ward Two, Henry Lasker; Ward Three, H. Goodman Waters; Ward Four, John A. Denison; Ward Five, William A. Dodge; Ward Six, Frank E. Stacy; Ward Seven, Charles B. Hitchcock; Ward Eight, John G. Maxfield.

CLERK—Elijah A. Newell.

COMMON COUNCILMEN—President, J. Frank Drake; Ward One, George S. Cook, Charles J. Jefferson; Ward Two, John P. Cannon, William H. Grady, John J. Walsh; Ward Three, George W. Streeter, George W. D. Upton; Ward Four, Robert P. Marsh, George W. Pike; Ward Five, Charles A. Allbe, J. Frank Drake; Ward Six, Henry Martens, Patrick W. Russell; Ward Seven, Julian R. Albee, Edward T. Broadhurst; Ward Eight, Giles Blague, Charles M. Goodwin, George A. Lanciaux.

CLERK—George J. Clark.

CITY CLERK—Elijah A. Newell.

CITY TREASURER—Eliphalet T. Tifft.

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